

A REPORT ON  
THE SAN FRANCISCO CITY-WIDE  
TRAFFIC SURVEY

W.P.A. PROJECT 6108-5863

PREPARED FOR  
WILLIAM H. WORDEN, DIRECTOR  
DEPARTMENT OF PUBLIC WORKS

BY  
MILLER McCLINTOCK  
TRAFFIC CONSULTANT



SAN FRANCISCO

1937

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W. P. A. Project 6108-5863

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DEPARTMENT OF PUBLIC WORKS

WILLIAM H. WORDEN, Director

*by*

MILLER McCLINTOCK

*Traffic Consultant*

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## TABLE OF CONTENTS

	PAGE
SUMMARY OF FINDINGS AND RECOMMENDATIONS . . . . .	17
Organization . . . . .	17
Basic Factors . . . . .	17
Vehicular Traffic Volume . . . . .	17
Speeds and Delays . . . . .	18
Origin and Destination of Traffic . . . . .	19
Pedestrian Traffic . . . . .	19
Accident Analysis . . . . .	19
Parking and Terminal Facilities . . . . .	20
Law Enforcement . . . . .	20
A Limited Way Plan . . . . .	21
Administrative Conclusions . . . . .	22
CHAPTER I.	
ORGANIZATION AND OBJECTIVES . . . . .	23
Organization . . . . .	24
Objectives and Nature of the Survey . . . . .	24
Description of Operations . . . . .	26
CHAPTER II.	
BASIC FACTORS OF TRAFFIC AND TRANSPORTATION . . . . .	28
Geography . . . . .	28
Topography . . . . .	29
Population . . . . .	30
Predominant Land Uses . . . . .	30
Trends of Transportation . . . . .	39
Mass Transportation . . . . .	39
Riding Habit . . . . .	40
Motor Vehicle Transportation . . . . .	41
Distribution of Motor Vehicle . . . . .	42
Conclusion . . . . .	49
CHAPTER III.	
VEHICULAR TRAFFIC VOLUMES . . . . .	52
The Pattern of Traffic Flow . . . . .	52
The Fluctuations of Traffic Movements . . . . .	54
Intersection Intensities . . . . .	65
Traffic Concentrations . . . . .	69
Growth of Vehicular Volume . . . . .	82
CHAPTER IV.	
TRAFFIC SPEED AND DELAYS . . . . .	84
Purpose and Method of Study . . . . .	84
Average Over-All Speeds on Principal Radial Thoroughfares . . . . .	85
Time Zones of Traffic Flow . . . . .	86

	PAGE
Speed and Delay in the Central Business District . . . . .	90
Frequency and Duration of Delays . . . . .	101
Speed and Delay, 1926—1937 Compared . . . . .	101

## CHAPTER V.

ORIGIN AND DESTINATION OF TRAFFIC MOVEMENT . . . . .	103
Method of Study . . . . .	103
Bay Bridge Findings . . . . .	104
Golden Gate Bridge Findings . . . . .	104
Intra-City Findings . . . . .	109
Conclusions . . . . .	110

## CHAPTER VI.

PEDESTRIAN TRAFFIC . . . . .	135
Pedestrian Traffic in the Central Business District . . . . .	135
Pedestrian Movement in Outlying Districts . . . . .	136
Fluctuations in Pedestrian Movements . . . . .	136
Pedestrian Congestion . . . . .	137
Pedestrian Crosswalks . . . . .	137
Pedestrian Protection . . . . .	138
Pedestrian Facilities . . . . .	151
Bridge Transportation and Pedestrian Traffic . . . . .	153

## CHAPTER VII.

ACCIDENT ANALYSIS . . . . .	155
Trend of Accident Occurrence . . . . .	155
Fluctuations of Accident Occurrence . . . . .	157
Types of Accidents . . . . .	160
Prevailing Conditions of Accident Occurrence . . . . .	161
The Driver . . . . .	165
Pedestrians . . . . .	166
Location of Accident Occurrence . . . . .	168
Proposed Future Uses of Accident Records . . . . .	173

## CHAPTER VIII.

PARKING AND TERMINAL FACILITIES . . . . .	181
Curb Parking Capacities . . . . .	181
Present Curb Parking Loads . . . . .	182
Parking Practice . . . . .	183
Off-Street Parking Facilities . . . . .	184
Parking Saturation in The Central Business District . . . . .	196
Conclusion . . . . .	196

## CHAPTER IX.

	PAGE
LAW OBSERVANCE AND ENFORCEMENT . . . . .	198
Enforceable Traffic Law . . . . .	198
Traffic Law Enforcement . . . . .	199
The Traffic Police . . . . .	200
Function of the Traffic Police . . . . .	201
Scope of Traffic Police Functions . . . . .	201
Selection and Training of Traffic Police . . . . .	202
Administration and Organization . . . . .	203
The San Francisco Traffic Police . . . . .	203
Centralized Administration Essential . . . . .	204
Recommendations . . . . .	209
Increase in Personnel . . . . .	210
The Equestrian Detail . . . . .	211
The School Traffic Patrol . . . . .	211
Selective Enforcement . . . . .	211
Apprehension of Hit-and-Run Drivers . . . . .	212
Accident Investigation . . . . .	212
The Motorcycle Squad . . . . .	213
The Fixed Post Detail . . . . .	213
The Statistical Detail . . . . .	214
The Parking and "Tag" Situation . . . . .	214
A Plan Suggested . . . . .	215
The San Francisco Traffic Court . . . . .	216
The Traffic Fines Bureau . . . . .	225
Recommendations . . . . .	226

## CHAPTER X.

A LIMITED WAY PLAN FOR SAN FRANCISCO . . . . .	227
Basic Causes of Traffic Accidents and Traffic Congestion . . . . .	227
Elements in Limited Way Design . . . . .	228
Methods of Achieving Limited Way Design . . . . .	229
Principles Governing Design of a Limited Way Plan . . . . .	230
A Limited Way Plan for the City and County of San Francisco . . . . .	231
Description of Limited Way Projects . . . . .	231
Summary of Limited Way Projects . . . . .	246
Comments on Costs . . . . .	247
Capacity of Limited Way Construction . . . . .	247
Anticipated Use of Limited Way System . . . . .	249
Speed Characteristics of Limited Ways . . . . .	251
Relative Safety Factors . . . . .	252
Architectural Design of Limited Ways . . . . .	253
Comprehensive Character of Plan . . . . .	254
Related Improvement . . . . .	254



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## LIST OF FIGURES

	PAGE
Topographical Map . . . . .	31
Population Curves, San Francisco and Bay Counties . . . . .	33
Distribution of Population . . . . .	35
Predominant Land Uses . . . . .	37
Street Railway Map . . . . .	43
Street-Car Flow Map . . . . .	45
Mass Transportation—Riding Habit . . . . .	47
Motor Vehicle Registration—San Francisco and Bay Counties . . . . .	48
Distribution of Motor Vehicles in San Francisco Bay Area . . . . .	49
Vehicular Flow . . . . .	55
Traffic Fluctuations—Market Street & Van Ness Avenue . . . . .	57
Traffic Fluctuation—Bay Bridge . . . . .	59
Traffic Fluctuation—Golden Gate Bridge . . . . .	61
Vehicular Lane Flow . . . . .	63
Intersection Intensities . . . . .	69
Vehicular Flow—Central Business District North of Mission . . . . .	71
Vehicular Traffic—Central Business District Cordon . . . . .	73
Movement of Persons—Central Business District Cordon . . . . .	75
Cordon Count—Vehicular Traffic . . . . .	77
Cordon Count—Movement of Persons . . . . .	79
Vehicular Volume Comparison . . . . .	83
Speed Map . . . . .	87
Auto Time Zones—P. M. Rush—Third & Market . . . . .	91
Auto Time Zones—Off Peak—Third & Market . . . . .	93
Auto Time Zones—P. M. Rush—Bridge Head . . . . .	95
Speed and Delay—Central Business District North of Market	
Distribution of Delays—Peak Hour . . . . .	97
Speed and Delay—Central Business District—North of Market—By Streets . . . . .	99
Bay Bridge—Origin and Destination . . . . .	105
Golden Gate Bridge—Origin and Destination . . . . .	107
Origin—Destination—Gateway "A" . . . . .	111
Origin—Destination—Gateway "B" . . . . .	113
Origin—Destination—Gateway "C" . . . . .	115
Origin—Destination—Gateway "D" . . . . .	117
Origin—Destination—Gateway "E" . . . . .	119
Origin—Destination—Gateway "F" . . . . .	121
Origin—Destination—Gateway "G" . . . . .	123
Origin—Destination—Gateway "H" . . . . .	125
Origin—Destination—Gateway "J" . . . . .	127
Origin—Destination—Gateway "K" . . . . .	129
Origin—Destination—Gateway "L" . . . . .	131
Origin—Destination—Gateway "M" . . . . .	133

Pedestrian Flow—Downtown District—Totals . . . . .	139
Pedestrian Flow—Outlying Districts—Total . . . . .	141
Pedestrian Fluctuations—Montgomery Street . . . . .	143
Pedestrian Fluctuations—Mission Street . . . . .	144
Pedestrian Flow—Downtown District—Peak Hour . . . . .	145
Pedestrian Flow—Outlying Districts—Peak Hour . . . . .	147
Total Pedestrian Flow on Market Street . . . . .	149
Accident Analysis—Record by Years . . . . .	158
Accident Analysis—Monthly, Weekly, and Hourly Variations . . . . .	159
Accident Analysis—Types of Accidents . . . . .	162
Accident Analysis—Location, Weather and Light Conditions . . . . .	163
Accident Analysis—Action and Condition of Drivers . . . . .	167
Accident Analysis—Driver Violations . . . . .	169
Accident Analysis—Drivers—Age Groups . . . . .	170
Accident Analysis—Pedestrians . . . . .	171
Accident Analysis—Pedestrians—Age Groups . . . . .	172
Fatalities and Personal Injuries . . . . .	177
Worst Corners . . . . .	179
Curb Parking . . . . .	185
Central Business District Parking Area . . . . .	187
Central Business District Parking Area—Curb Parking in Car Hours . . . . .	189
Parking Practice in Central Business District . . . . .	191
Off Street Parking . . . . .	193
Parking in Central Business District . . . . .	195
Elevated Limited Way . . . . .	235
Depressed Limited Way . . . . .	237
Limited Way Treatment at Grade . . . . .	238
Typical Ramp Connection . . . . .	239
A Limited Way Plan . . . . .	241
A Suggested Design of an Elevated Limited Way—1 . . . . .	257
A Suggested Design of an Elevated Way—2 . . . . .	259
Existing Distributor System for Limited Way Plan . . . . .	261



## LIST *of* APPENDICES

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### APPENDIX I

Vehicle Volume Flow

### APPENDIX II

Pedestrian Flow and Sidewalk Obstruction

### APPENDIX III

Cordon Count of the Central Business District Area

### APPENDIX IV

Speed and Delay

### APPENDIX V

Origin and Destination

### APPENDIX VI

Curb Parking

### APPENDIX VII

Motor Vehicle Registration and Population Tables

### APPENDIX VIII

Typical Vehicular Flow, Condition, and Collision Diagrams



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*of*  
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W. P. A. Project 6108-5863

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July 31, 1937

Mr. William H. Worden, Director  
Department of Public Works  
City and County of San Francisco.

Sir:

In fulfillment of the obligations of a contract entered into between the Director of the Department of Public Works of the City and County of San Francisco, and the undersigned traffic consultant on the thirtieth day of September, 1936, there is transmitted, herewith a report entitled "San Francisco City-Wide Traffic Survey," otherwise designated as Works Progress Administration Project 6108-5863. In addition to the report, herewith transmitted, there are being deposited in the office of the City Engineer all files, collected during the course of the Survey.

The report contains a factual analysis of the street traffic problem of the City and County of San Francisco, and on the basis of such an analysis presents various recommendations for the regulation and control of traffic, and a comprehensive physical plan for the solution of the present and future problems of traffic accidents and congestion. In accordance with the terms of the before mentioned contract this report does not deal with the problems of mass transportation except insofar as those problems have a direct bearing upon the safe and orderly movement of vehicles and pedestrians.

Your consultant desires to express gratitude to the Department of Public Works for assistance received through the office of Mr. John J. Casey, Engineer of the City and County of San Francisco, and for the cordial cooperation of the Works Progress Administration, and more especially for the complete freedom of action accorded your consultant, his resident engineer, Mr. Theodore Matson, and the members of his staff. With due appreciation for this assistance your consultant desires,

however, to assume full responsibility for the accuracy of the facts presented in the accompanying report and for the propriety of the findings and proposals based thereon.

It is to be hoped that the recommendations presented, and more especially those entitled "A Limited Way Plan for San Francisco" may make it possible for this community to be the first American city to achieve a reasonably complete and permanent solution of the pressing problems of traffic accidents and traffic congestion.

Respectfully transmitted,

MILLER McCLINTOCK

*Traffic Consultant*

REPORT ON  
SAN FRANCISCO  
CITYWIDE TRAFFIC  
SURVEY

W. P. A. Project 6108-5863

::

1937





## SUMMARY OF FINDINGS AND RECOMMENDATIONS

### *Organization and Objectives:*

The City-wide Traffic Survey has been a joint project of the Works Progress Administration and the City and County of San Francisco. Its objectives were to make a comprehensive study of all important factors affecting the safe and orderly movement of persons and vehicles over the streets of the community and on the basis of such studies to design methods for the reduction of traffic accidents and congestion. The W. P. A. appropriated \$140,000.00 and the City and County, acting as sponsor, appropriated \$20,000.00.

Active operations began January 19, 1937 and were concluded July 31, 1937. During this period 129,500 man-hours were expended. A total of 395 persons were employed by the Survey. The maximum number employed at any one time being 279.

The Survey has been under the jurisdiction of William H. Worden, Director of Public Works, representing the sponsor. Technical direction has been under Miller McClintock, Traffic Consultant, represented by Theodore Matson, Director of the Survey.

### *Basic Factors:*

The peninsular location of San Francisco has complicated and restricted a full development of land transportation in the past, a situation now in part relieved by the bridges. Topography has made possible the development of only comparatively few routes with satisfactory grades, and this has resulted in an abnormal concentration of traffic volumes. Similarly, topography has resulted in concentrations of population and trade activities, complicating traffic movements. Approximately forty-five per cent. of the city's forty-two square miles is unoccupied. Since the introduction of the automobile the trend has been toward automotive rather than mass transportation, a trend which will probably continue in the future.

### *Vehicular Traffic Volume:*

An analysis of traffic volumes recorded at more than 700 intersections has made possible the presentation of a traffic flow map for the community showing the actual and relative distribution of traffic volume upon major routes of traffic for the typical twelve hour day

from 7 A. M. to 7 P. M. The outstanding feature of this flow pattern is the high concentration of traffic volume in the Central District and upon the major radial routes connecting this district with other parts of the city. Among the most important of these routes in volume are; Potrero-Bay Shore, Third Street, Mission-Valencia-San Jose, Market-Portola, Lincoln Way-Fell, Geary-Post, California, Columbus-Bay and Van Ness Avenue. Dispersion of traffic over the major street system results in a very large number of heavy volume intersections, there being 337 intersections at which counts were taken carrying 10,000 or more vehicles during the twelve hour day. A sixteen hour cordon count of the Central Business District, from 7 A. M. to 11 P. M., shows a total of 269,592 vehicles entering and leaving the district during the period of the count. The maximum accumulation of vehicles occurs at 4:30 P. M. and totals 10,000.

The total number of personal movements in and out of the \*Central Business District during the sixteen hour period, by all means of transportation, is 1,223,139. The maximum accumulation of persons occurs at 2:30 P. M. and totals 97,500. Of total personal movements, 35.3 per cent are by mass transportation, 32.9 per cent by walking and 31.8 per cent by motor vehicles. Since the cordon count of 1926, mass transportation has decreased 10.4 per cent, motor vehicles have increased 8.2 per cent and walking has increased 2.2 per cent.

### *Speeds and Delay:*

Speed studies comprising more than 2,200 miles of test observation show the average overall speed of automobile travel in San Francisco to be 17.3 miles per hour during off peak hours and sixteen miles per hour during peak hours. Overall speeds as low as five miles per hour are found on streets in the congested area. Average traffic is stopped between two and three times during each mile of travel and for an average period of .20 minutes for each delay. In the Central District the average vehicle is delayed for approximately forty per cent of its traffic time, and in this area the average vehicle is stopped at the rate of eighty-five times per hour for an average wait of .27 minutes per stop.

---

\*The Central Business District, whenever referred to in this report, is the area bounded by and including Mission Street from Sixth to First, First Street from Mission to Market, Battery Street from Market to California, California Street from Battery to Grant Avenue, Grant Avenue from California to Sutter, Sutter Street from Grant Avenue to Taylor, Taylor Street from Sutter to Market, Sixth Street from Market to Mission. The definition of this area as the Central Business District has not been made without a thorough knowledge that the area immediately adjacent is very important from a commercial standpoint. However, the fact that the relative concentration of both pedestrian and vehicular traffic is greatest in this area justifies the restrictions made.

*Origin and Destination of Traffic:*

An analysis of the movements of 52,000 vehicles reveals the Central Business District as the prime generator of traffic volume in the region. As illustrative—this area accounts for approximately twenty-eight and one-half per cent of the Bay Bridge and approximately eighteen and one-half per cent of the Golden Gate Bridge traffic. At eighty-five origin-destination stations, twenty-five per cent of the total traffic was to or from the Central Business District. The balance of the traffic flow is intra-district or exchange between two local districts.

*Pedestrian Traffic:*

Pedestrian traffic is limited primarily to business areas. The heaviest pedestrian movement is on the south side of Market Street between Fourth and Fifth Streets, where the twelve hour total is 60,000 persons, at a maximum rate of 400 persons per foot width of sidewalk during peak hour. The heaviest pedestrian crossings are on Market Street between Second and Sixth Streets. The total twelve hour exchange of pedestrians between the north and south sides of Market Street in this area is almost one-quarter million persons.

From ten to fifty per cent of the sidewalk width is regularly obstructed by merchandising or other non-traffic activity in the Central Business District. Suitable restrictions are required.

There should be an increase of properly placed and maintained crosswalks, especially in business areas and in school zones.

There should be provision for pedestrian islands in all wide roadways.

*Accident Analysis:*

San Francisco has a traffic fatality rate of 15.5 per 100,000 population and of 6.5 per 10,000 registered vehicles. This places San Francisco materially below the average of all American cities of over 500,000 population. In 1927 there were 158 traffic deaths. During this year a new system of traffic regulation and control was put into effect. Fatal accidents fell to 132 and 107 in the two following years. The record for 1936 was 102. It is not believed that the accident rate can be lowered materially by new forms of control, though some relief may be obtained by refinements in present methods.

Accident records, such as are analyzed in this report should be used for selective enforcement, physical improvement of location defects, installation of control apparatus and street illumination.

*Parking and Terminal Facilities:*

Curbs in the Central Business District Parking Area (Fig. 185) have a capacity to park 14,000 vehicles. Present restrictions reduce this to a legal capacity of 6,400 vehicles during the business day. From 9:30 A. M. to 5:30 P. M. this district now shows an illegal parking load of approximately 1,000 vehicles continuously. Time limit regulations show little or no effect upon parking habits.

In the Central Business District Parking Area, off-street facilities (Fig. 193) have an instant parking capacity of approximately 15,000 vehicles. Of this total, 3,500 vehicles are in parking lots.

Both curb and off-street parking facilities, reasonably located are now saturated. Further inevitable restrictions will increase the overload.

The major solution of the parking problem should be sought in the private provision of parking and loading facilities, though public officials may well contemplate the private or public development of sub-surface facilities under Union Square.

*Law Enforcement:*

An analysis of the traffic activities of the Police Department leads to the conclusion that enforcement work is carried out in an acceptable manner. There are, however, various refinements in organization and administration which should lead to increased efficiency and economy of effort. There should be a textual revision of City traffic law for greater simplicity and clarity, and the text, in convenient form, should always be available to the public. Careful selection and special training should be provided for the personnel of the Traffic Bureau. There should be a centralization of city-wide administration of traffic law enforcement in the Traffic Bureau, and authority should be given to the Captain of Traffic for city-wide use of the traffic force in selective enforcement and accident prevention. Direction of work of district station personnel when temporarily on traffic duty should be by the Captain of Traffic. There should be an increase of Traffic Bureau personnel from year to year and there should be a protection of traffic personnel from non-traffic assignments. Horses should be transferred from the Traffic

Bureau. There should be an extension of school traffic patrol work. More adequate safety protection should be given to officers on crossing duty. There should be a better ratio between tags issued for illegal parking and those issued for other types of violations. The Courts should operate in a firmer and more uniform manner in handling traffic cases.

As a matter of regulation Pine Street should be made one-way east-bound from Presidio Avenue to Mason Street, and for the same distance Bush Street should be made one-way west-bound. Turk Street should be made one-way east-bound from Divisadero Street to Jones Street and Eddy, for the same distance should be made one-way west-bound. These streets should be laned, marked, and provided with progressive signal control.

#### *A Limited Way Plan:*

Despite the minor improvements in traffic facility and safety which may be obtained through refinements in regulation and control it is concluded that the only basic cure for the traffic problem lies in the construction of a system of automotive routes accurately adjusted to the free and safe movement of motor vehicles. These routes should be provided with the following physical elements:

- (1) A complete and continuous physical separation of opposed streams of traffic;
- (2) No direct access to abutting property and with all entries and exits to and from the structure by specially designed connections;
- (3) A continuous separation of all intersections with no cross movement of any kind across the operating lanes of the Limited Way;
- (4) A cross-section design to permit an adequate segregation of relatively fast and relatively slow vehicles and with retarding lanes at exits and accelerating lanes at entries.

To this end the Survey presents various design methods to achieve Limited Way objectives and has prepared a comprehensive plan of Limited Way construction for the City and County of San Francisco.

The plan includes 64.6 miles of Limited Way route of which 26.9 miles can be obtained through a Limited Way treatment of existing grade routes. The estimated cost of the total system is \$26,120,800. As laid out only sixteen per cent of the area of San Francisco is more than one-half mile removed from a Limited Way route. The proposed system follows the existing radial distribution from the Central Business District, provides connections between the principal outlying districts, gives direct

connections to each of the Bridges and all important trunk highway routes and provides for a dual connection between the two bridges.

The system as designed would provide overall safe operating speeds of forty miles per hour, and will accommodate 49.6 per cent of the major route mileage in San Francisco. With this traffic it will produce an estimated annual saving of 7,978,900 car-hours—or materially more than the combined car-hour savings of both bridges. Routes of this type have proved their ability to operate with almost perfect safety records.

An examination of the existing street system of San Francisco leads to the conclusion, that with the construction of the proposed Limited Way System, the immediate need for a general program of street widenings and connections will cease to exist, except for intra-district improvements of the type heretofore proposed for a solution of the trans-Market Street problem.

#### *Administrative Conclusions:*

The Survey takes cognizance of the basic necessity for continuing the collection and analysis of traffic data and the competent designing of regulatory and control measures based upon such data. It confirms the conclusion presented in "A Report on the Street Traffic Control Problem of San Francisco," 1927, that this function should be an integral part of the City Engineer's Office properly coordinated with related administrative activities. It recognizes and commends the sound steps already taken toward this end, and recommends more liberal appropriations for the furtherance of this activity.

## CHAPTER I.

### ORGANIZATION AND OBJECTIVES

The present city-wide survey of street traffic conditions resulted from the combined influence of several community interests. The construction of the San Francisco-Oakland Bay Bridge and of the Golden Gate Bridge intensified and focused public interest on street traffic matters. The local influences of traffic complications resulting from the new streams of traffic which would enter and leave the city by way of these outstanding structures, were matters of speculation and doubt, which properly should be studied.

Numerous street improvements and changes designed to better street traffic conditions were being proposed throughout the city, but without adequate or satisfactory knowledge of the traffic movements which would be affected by such improvements.

Moreover, large numbers of persons were still on the relief rolls as a result of the economic depression, and the Works Progress Administration, hereinafter called the W.P.A., stood ready and willing to assist in such a study by the assignment of persons on relief who could carry out properly the necessary details of investigation and analysis.

Accordingly, the Board of Supervisors authorized the Director of the Department of Public Works to enter into an agreement with a Traffic Consultant who should aid in the direction of the Survey, and to that end provide a resident Project Director. Formal contract was executed on September 30th, 1936.

Application was formally filed with the W.P.A., by the execution of usual project proposal form on October 12th. This project proposal provided that the Department of Public Works would act as sponsor of, and contribute \$20,000.00 toward the successful consummation of the Survey. The proposal further provided that the W.P.A., would allot approximately \$140,000.00 toward the completion of the outlined work and that all operations would be carried out in accordance with the regulations prescribed under the Emergency Relief Act of 1935, and in accordance with the administrative orders and instructions issued by W.P.A.

The proposal was approved by the W.P.A. on November 30th, 1936 and on December 8th the Project Director was authorized to start operations on The San Francisco City-Wide Traffic Survey, hereinafter referred to as the Survey.

### *Organization*

Thus it is seen that the direction of the Survey necessarily has been jointly dependent on the regulations of the W.P.A. and the Director of the Department of Public Works.

The W.P.A. has had to deal with many matters relating to methods, personnel, and management of the Survey. The supervisory personnel of the staff, the working schedules, the necessary supplies and equipment and the general character and conduct of the investigation have been reviewed and approved by the responsible officials of the W.P.A.

At the same time the Director of the Department of Public Works, through the City Engineer and members of his staff, has exercised final authority over the acts of the Survey. The immediate organization and supervision of the various studies, as well as the preparation of this report, have been under the direction of the Traffic Consultant, acting through the Project Director and his immediate staff.

### *Objectives and Nature of the Survey*

It has been the object of the Survey to collect facts which bear on the present and future use of the streets, and to analyze and interpret the significance of such findings. Consideration was then given to ways and means of gaining relief from present street traffic problems, not only by the regulation of traffic and the administration of such regulations, but also through those improvements which could be obtained by physical changes in, or creation of street areas and other traffic facilities.

As the full title of the Survey implies, the operations carried out have not been confined to localized areas or problems, but rather the work has been conducted along comprehensive lines. All investigations have been carried out on a city-wide basis and special consideration has been given to localized problems only in relation to other similar problems determined from city-wide investigations.

In brief, the Survey has given attention to basic underlying factors of present and future traffic movement, such as population, topography,



present city development and existing streets and roadways, together with trends in motor vehicle registration and street car use.

The volume of traffic movement has been studied, not only from the viewpoint of the present pattern developed by such traffic movements, but also on the basis of peak demands, which have been generated, with respect to time and place. Attention along those lines has been further directed toward the concentrations existing in the Central Business District.

The speed and delay of traffic movement on the primary arteries, as well as the downtown streets, have been investigated during different periods and the amount, type, frequency and duration of delays has been analyzed.

The origin and destination of traffic movements on the Golden Gate Bridge, as well as the San Francisco-Oakland Bay Bridge, have been determined and a check of the origins and destinations of traffic flowing through principal natural gateways in intra-city movements has been carried out.

Pedestrian traffic at important points has been studied and the problems of such pedestrian movements have been analyzed.

A full analysis of accidents resulting from street traffic flows and the significant factors affecting such accident occurrence have been determined.

The storage and terminal problem resulting from automobile operations has been given special attention in the Central Business District and the amount, type and characteristics of curb parking, as well as the facilities for curb parking and off street parking have been investigated.

In view of the fact that regulation of street traffic is, in the final analysis, dependent upon the enforcement of such regulations, a study of the record of such enforcement has been made and the pertinent factors affecting the degree of observance of traffic rules have been presented.

The factual data which have been collected through these studies, together with the analyses of such data which have been made, served as the basis for the drafting of conclusions in connection with recommended measures of relief.

As stated heretofore, the proposed measures deal not only with the improvement of traffic conditions through regulation and the administration of such regulatory measures, but in addition, with improvements which may be gained through physical changes in the street system.

### *Description of Operations*

As a further consideration of the character of the Survey, it seems proper to set forth briefly at this point, significant facts with respect to the magnitude, duration and intensity of the Survey operations.

Approximately 129,500 man-hours of effort was spent in the entire Survey operations. Of this amount, 78 per cent. was devoted to field investigation. Seventeen per cent. of the effort was spent in statistical and allied work and 5 per cent. was spent in the preparation of maps, charts and other drafting work. Thus it is seen that the great bulk of effort was spent in the collection of data in the field.

Approximately 390 persons have worked on the Survey. The first assignment of personnel by the W.P.A. was received on January 14th and field operations started on January 19th. The force was rapidly enlarged, particularly in the Field Division, until a maximum of 279 persons were employed at one time during the latter part of April and the first part of May. The field work was completed June 20th, and this Final Report submitted July 31st.

The operations of the Survey were divided into eight major studies. Vehicle volume counts were made at nearly eight hundred intersections. The great majority of these counts were of twelve hour duration. A total

TABLE 26  
DISTRIBUTION OF EFFORT ON  
THE CITY-WIDE TRAFFIC SURVEY

	MAN-HOURS	PER CENT
1. Vehicle Volume		
2. Speed Delay	63,600	48.00
3. Origin-Destination	1,900	2.00
4. Pedestrian Volume	4,500	3.50
5. Accident Analysis	11,200	8.70
6. Law Enforcement	2,100	1.60
7. Cordon Count	4,200	3.20
8. Parking (Curb and Off Street)	5,100	4.50
9. Supervisory }	11,500	8.90
10. Overhead }	22,400	17.30
11. Compilation and Assembling Results	3,000	2.30
TOTAL:	129,500	100.00

of 1475 car-miles of test were carried out in connection with the speed and delay of vehicular movement. Origin-destination studies of vehicular movements were made at eighty-five stations located at principal gateways within the city. Furthermore, similar studies were carried out on the San Francisco-Oakland Bay Bridge and the Golden Gate Bridge.

Six hour counts of pedestrians in outlying districts and twelve hour counts of pedestrians in downtown districts were made at over seven hundred locations.

Approximately 250,000 linear feet of curb were investigated in the Central Parking District, not only with reference to existing regulations as marked, but also with respect to the characteristics of curb parking by motor vehicles.

In conjunction with the Market Street Railway and the Municipal Railway, a cordon count of the Central District involving a complete check of all traffic movements including pedestrians, vehicles and street cars in both directions was made for a period of sixteen hours at forty cordon stations.

Summaries of 24,000 accident records prepared by the police department were used in connection with the accident analysis work and an intensive analysis of approximately eight thousand individual accident records for the year 1936 was carried out.

In connection with the observance and enforcement of traffic laws, field investigations were carried out at forty locations for law observance and approximately 20,000 court cases for violations of traffic law and their disposition in the judiciary system were studied.

## CHAPTER II

### BASIC FACTORS OF TRAFFIC AND TRANSPORTATION

To place the traffic and transportation problems of San Francisco in proper perspective, and to avoid the formation of ideas concerning traffic problems of the city which might give undue weight to minor factors, it is felt desirable that a review be made of those basic factors including historical trends which affect generally the traffic problems of the city.

#### *Geography*

San Francisco is an important point on the highways of the world. The Bay Area, of which San Francisco is the center of commercial and social life, possesses one of the finest harbors in the world. It is logically a most convenient gateway to the Orient and the South Seas, inasmuch as the median lines of the Pacific Coast population, finance, industry and agriculture pass through the Area. Of all the ports in the United States, San Francisco Bay ranks second in value of water-borne commerce.

While the advantages of this land-locked harbor have been of profound importance in the prominent position that San Francisco holds as a port of world commerce today, those physical features which have been so important in making such an outstanding harbor, have brought with them disadvantages and problems which have seriously affected the local transportation of the San Francisco Bay Area.

San Francisco lies on the tip of a peninsula, surrounded by deep water on three sides and has had land connections only to the South. This fact must be reckoned with in dealing with the problems of traffic and transport in San Francisco. The growth of the city to the West can never exceed the few miles between the Central District and the Pacific Ocean. Traffic facilities which must precede urban expansion are further restricted to the north and east. The recent opening of the Golden Gate Bridge and of the San Francisco-Oakland Bay Bridge have brought about tremendous opportunities for an expansion and closer integration of the entire metropolitan area.

It is, however, only to the South that there is a possibility of contiguous physical development. The thousands of acres of land immediately adjacent to San Francisco on the South will ultimately be developed as the need for this expansion is justified.

From the traffic point of view this area is so intimately tied with the interests of San Francisco, that an adequate plan of development of arteries of traffic must be carried out as a joint responsibility of San Francisco and adjacent jurisdictions.

### *Topography*

The topography of San Francisco is graphically set forth in Figure 31. Within this limited area of scarcely forty-three square miles, hills rising in some instances in excess of 925 feet have left partially isolated pockets of development.

The inter-communication between these valleys of development must of necessity be confined to natural gateways, circuitous routes, steep grade routes, or artificially created connections through tunnels.

The major streets of a community usually develop from early trails created when there were no artificial barriers to their natural course. These primitive routes followed relatively easy gradients and hence it is to be expected, on a topographical site as rugged as is found in San Francisco, that major streets laid out on the lines of the early roads and pathways will follow the contour best fitted to the particular location.

Thus, Columbus Avenue lies between Telegraph Hill and the Russian and Nob Hill area; Van Ness Avenue lies in the optimum level between Russian Hill and Pacific Heights. Market Street, on the other hand, follows a contour of relatively easy gradient over the crest between Twin Peaks and Mt. Davidson. To the south are found such major arteries as Alemany Boulevard, Bay Shore Boulevard and Third Street lying in the lower levels. While these major arteries are generally of easy gradient, they are the exception to the rule.

The tremendous stimulus to growth in San Francisco following discovery of gold in California, was sufficient cause to set aside many such natural developments.

All too early in the history of San Francisco there was an excessive and over-zealous use of the engineer's transit in projecting streets along straight lines, imposing on the city a street system entirely unsuited to the

topography of the site. Streets which should have spiraled up from contour to contour, were made to charge up the slopes of steep hills, so that grades of ten to eighteen per cent are common and grades of over twenty per cent are not rare. Over twenty per cent of the street mileage has grade between five and ten per cent. Eight and seven-tenths per cent. is at grades between ten and fifteen per cent. and six and one-tenth per cent. inclines at slopes exceeding fifteen per cent.

The subsequent development of the city on these lines has brought with it traffic problems which are entirely out of proportion to the size of the community.

### *Population*

Since the early days San Francisco has enjoyed a constant, steady growth. Beginning with the gold rush of 1849, the curve of population has mounted gradually and steadily, so that, increasing at a rate of over 8200 persons per year, the present population within the confines of San Francisco can be conservatively estimated at the present time as exceeding 725,000. Within the San Francisco metropolitan area there are probably over one and three-quarter million people.

The population curves for San Francisco and the Bay Counties are set forth in Figure 33. It can be expected that the present population will increase and with this increase of population traffic demands will also increase and at a rate which is greater than the rate of growth of population.

San Francisco being the commercial and social center of its metropolitan area naturally produces the highest population density. It will be noted in Figure 35 that the population of San Francisco in 1930 was in excess of 15,000 per square mile. Because of the topography of the city, localized densities often exceed 300 persons per acre.

The uneven spread of population throughout the city produces densities which are extremely high for ordinary city growth. If the present tendency towards concentration continues further traffic problems will arise.

### *Predominant Land Uses*

The present uneven development of the city is set forth in Figure 37, entitled "Predominant Land Uses." The basic information for this



PACIFIC OCEAN



GOLDEN GATE

# SAN FRANCISCO TRAFFIC SURVEY W.P.A. PROJECT 6108 - 5863 TOPOGRAPHICAL MAP

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

## LEGEND

UNDER 200 FT. - PLAN

200-300 FT. —

300-400 FT. —

400-500 FT. —

500-600 FT. —

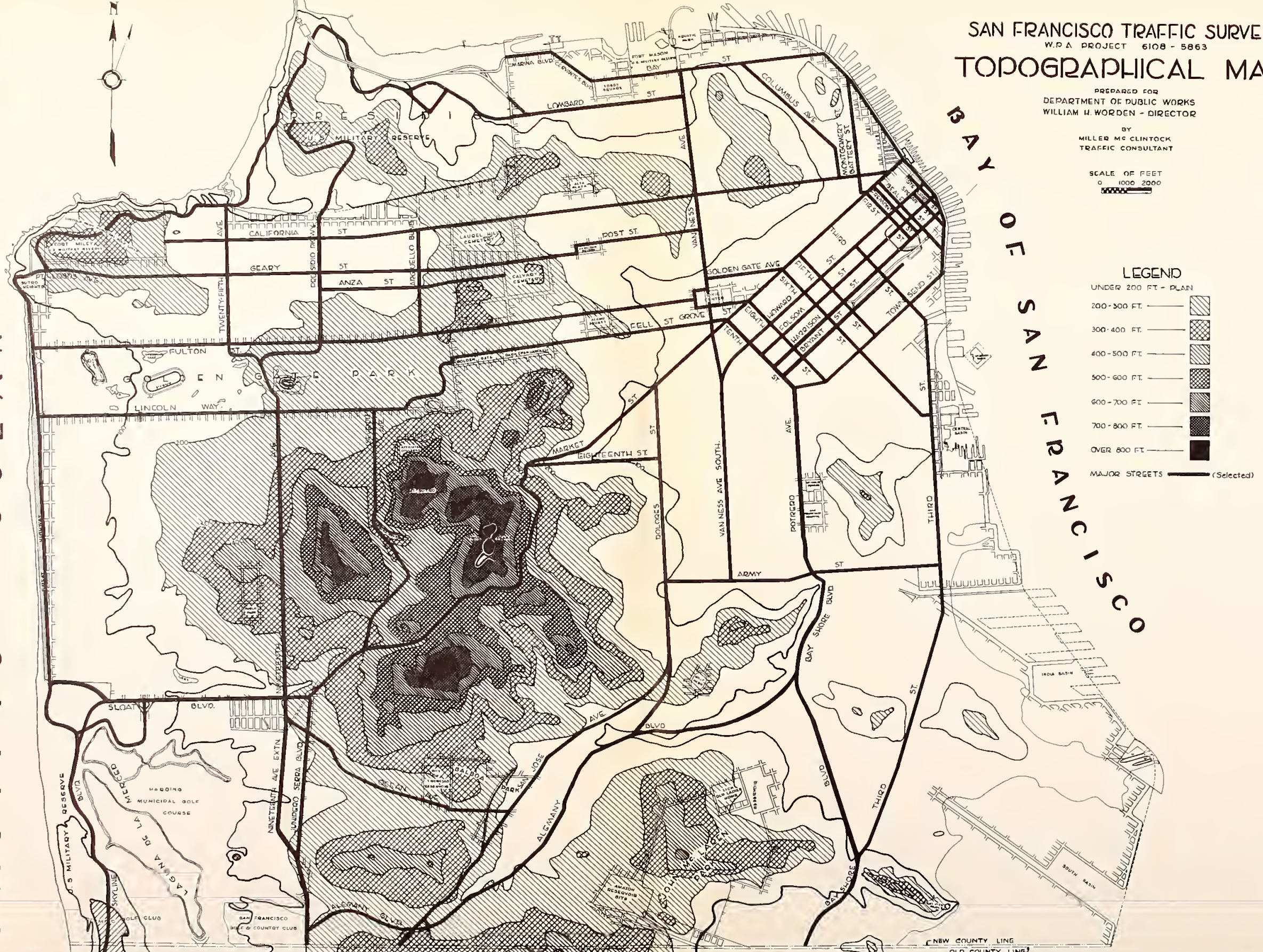
600-700 FT. —

700-800 FT. —

OVER 800 FT. —

MAJOR STREETS — (Selected)

BAY OF SAN FRANCISCO



NEW COUNTY LINE  
OLD COUNTY LINE







# SAN FRANCISCO TRAFFIC SURVEY

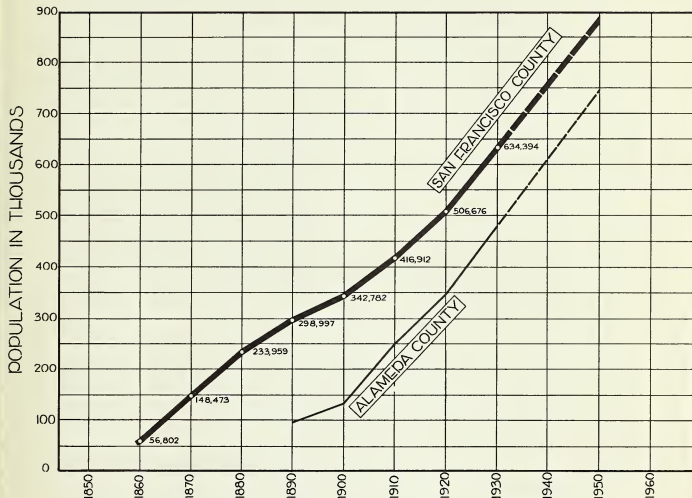
W. P. A. PROJECT 6108 - 5863

## POPULATION CURVES

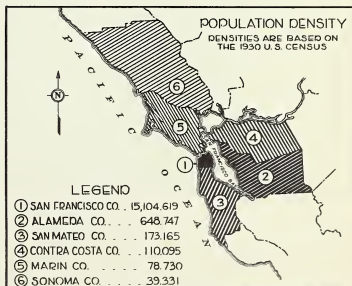
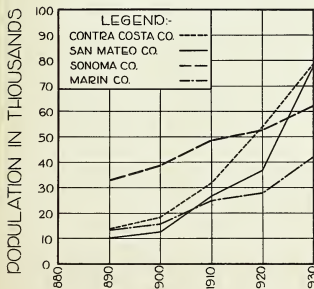
### SAN FRANCISCO & BAY COUNTIES

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



DATA BASED ON RECORDS OF UNITED STATES CENSUS BUREAU



map was gathered after intensive field survey of every section of the city by the Land Use Survey, W.P.A. Project No. 4249<sup>1</sup>.

This map shows predominant types of land use for all sections of the city and is very important in a consideration of traffic problems. Study of this chart shows the geographic relationship of those sections of the city where the different types of activities are carried on. Thus the heavy industrial sections shown in black produce characteristic problems of traffic peculiar to themselves. The business and light industrial centers naturally are the areas for the greatest concentration of traffic. Intensive development of multiple family dwellings is generally found on the periphery of business and light industrial sections. Analysis of these areas indicate that scarcely more than one-fourth of the city's area is devoted to single family dwellings as a predominant type of land use.

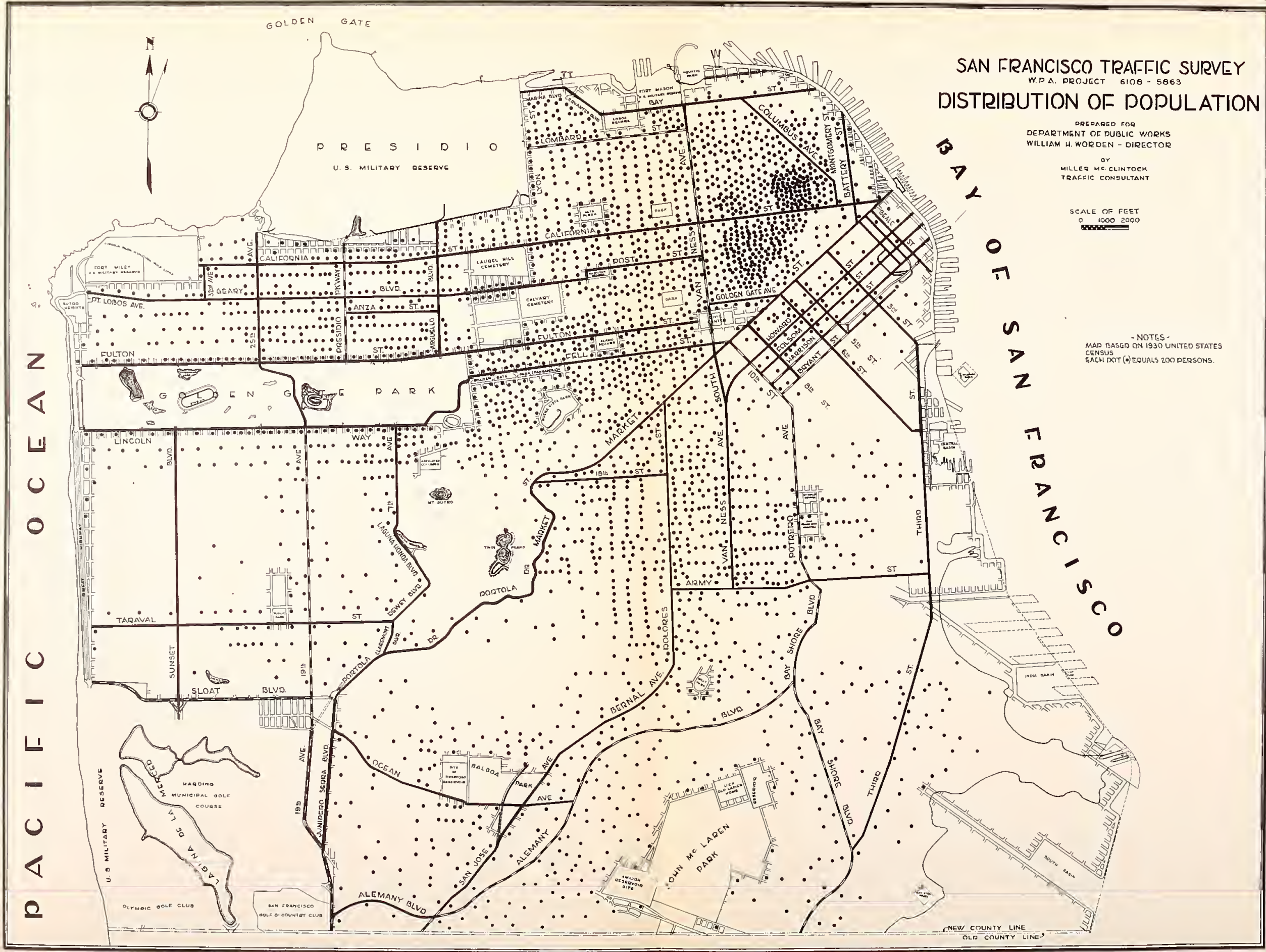
For every three acres of land in use for single family residences, one acre of land is in use for multiple family dwellings. Over eight per cent. of the total city area is given over predominantly to multiple family dwellings, and more than thirteen per cent of the city's area shows a predominant land use identified as business and light industry. A large amount of the latter classification includes multiple family dwellings on the upper floors of buildings. Thus, multiple family dwellings are found rather extensively in nearly twenty-two per cent. of the city's area. With these multiple family dwellings in and immediately adjacent to the areas designated as predominantly business and light industrial, it is evident that a large amount of the city's traffic may be termed as "short haul movements."

The heavy industrial areas on the other hand are distributed generally along the eastern shore of the city. However, the areas which are given over predominantly to heavy industry are not at all closely knit.

About forty-five per cent, or nearly a half of the land within the confines of the city is relatively vacant and therefore not productive of traffic, and the remaining areas have a most intensive development, particularly from the residential point of view. The further development of the city by zoning policies has a very definite bearing upon the traffic problems of the future.

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<sup>1</sup>This Survey was under the direction of Mr. Elmo Boldemann and Mr. L. Deming Tilton, City Planning Consultants.



# SAN FRANCISCO TRAFFIC SURVEY W.P.A. PROJECT 6106 - 5863 DISTRIBUTION OF POPULATION

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR  
BY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

- NOTES -  
MAP BASED ON 1930 UNITED STATES  
CENSUS  
EACH DOT (•) EQUALS 200 PERSONS.

NEW COUNTY LINE  
OLD COUNTY LINE





# PREDOMINANT LAND USES

AS DEVELOPED BY  
LAND USE SURVEY W.P.A. PROJECT No. 4249  
SPONSORED BY  
CITY PLANNING COMMISSION  
SAN FRANCISCO  
1937

BAY OF SAN FRANCISCO



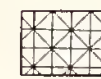
PRESIDIO

LINCOLN PARK  
FORT MILEY

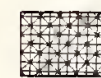
GOLDEN GATE PARK

PACIFIC OCEAN

## LEGEND



SINGLE FAMILY



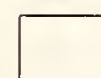
MULTIPLE FAMILY



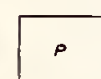
BUSINESS AND  
LIGHT INDUSTRY



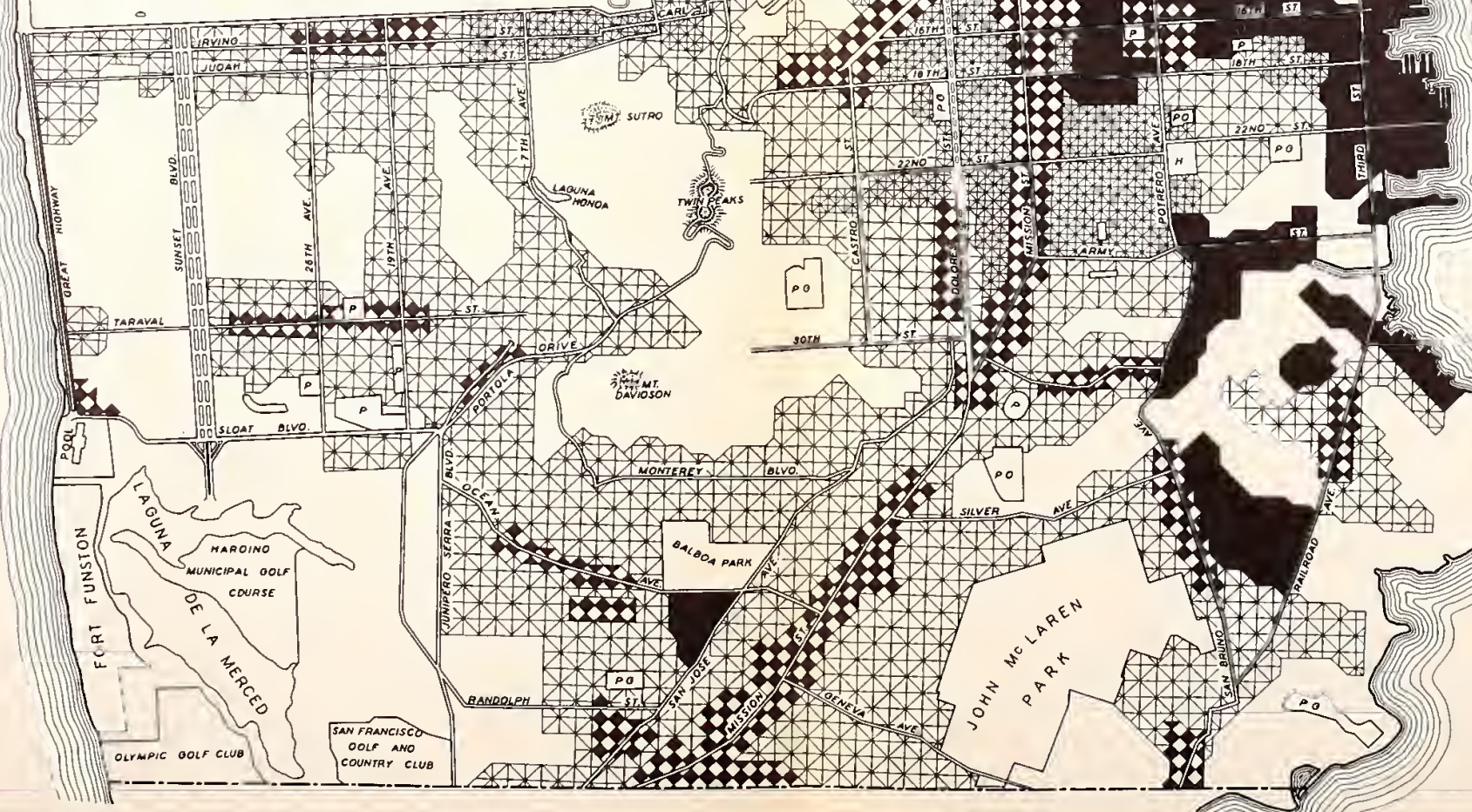
HEAVY INDUSTRY



VACANT LAND



P -- PARKS  
PO -- PLAYGROUNDS  
C -- CEMETERY  
H -- HOSPITAL



LAGUNA DE LA MERCED  
HARDING MUNICIPAL GOLF COURSE  
OLYMPIC GOLF CLUB  
SAN FRANCISCO GOLF AND COUNTRY CLUB

JOHN MCLAREN PARK





*Trends of Transportation*

Not only the concentrations of increasing amounts of business activity and dwelling capacities into relatively small areas, as pointed out above, but also the changes which have taken place in the methods of transportation have had a profound effect upon the modern traffic problem.

The effect which each of these factors will have in the future is difficult to forecast. It seems reasonable, however, to conclude that the city has not yet reached the ultimate limit in intensity of land use, nor in the trend toward motorization.

*Mass Transportation*

To better follow the general trends in transportation, it is pertinent to study the history of changes. It was in 1839 that the first streets were laid out in the little settlement known as Yerba Buena. Approximately eleven years later, or in 1850, plank paved toll roads were laid out on Folsom and Mission Streets, and at this time horses and vehicles provided by livery stables furnished the only means of wheel transportation.

With the great increase of population following the discovery of gold in California, there resulted in 1852 an Omnibus line, operating between the Mission Dolores and the Post Office downtown on a thirty-minute headway, and charging fees from fifty cents to one dollar. The Omnibus development grew rapidly with reduced fares, but by 1862, with ten cents the standard fare, the Omnibus system was rapidly being outmoded in a city of about 50,000 population.

In 1860, the horse car period of mass transportation was started, and a note from the City Directory in 1875 reads as follows:

"It is hardly too much to say that the modern horse car is among the most indispensable conditions of modern metropolitan growth. It is to a city what steam car and steamship lines are to the state and the country. In these modern days of fashionable effeminacy and flabby feebleness, which never walks when it can possibly ride, the horse car virtually fixes the ultimate limits of suburban growth."

In spite of such sanguine and enthusiastic support of the horse car, its development was even at the time this entry was made in the City Directory, being outmoded by a new invention, the cable car. From 1872 until 1891, horse car lines were rapidly being converted into cable car lines.

In 1891, San Francisco had its first electric railway. The electric railway developed and grew, and even today must be reckoned with as the basic method of public transportation.

The present development of street railways in San Francisco is set forth in Figure 43, (Street Railway Map). It should be noted from this map that even in view of the large number of streets carrying rails and street car transportation, there is already a considerable showing of motorized transportation designated as "bus lines." The number of street cars, operating over this system of trackage in a typical twenty-four hour day, is set forth in Figure 45, (Street Car Flow Map).

The unusual concentration of street cars on Market Street is without parallel among American cities, particularly in view of the volume of street cars which pass over such a great length of street each day.

It is not within the scope of this study to present an analysis of mass transportation problems, but rather to point out present conditions of surface traffic movement and to give to mass transportation due recognition for the important place it holds in the present street traffic problem. A great proportion of the radial thoroughfares carry street car lines. The disproportionate number of street cars on certain of these streets in comparison with others, raises the question as to whether or not improvements can be gained through the elimination of street car movements from certain streets and the concentration of such movement on other streets, thereby providing a segregation of traffic into types of carriers which possess similar instead of dissimilar operating characteristics.

### *Riding Habit*

The term "riding habit" may be defined as the ratio between the number of fares collected and the population of the community in which the transit service is conducted. It is very significant, as it provides an index to the utility which the transit service renders the community. For a number of reasons, San Francisco has long been outstanding in its riding habit. Even today, it ranks as a leader of American and Canadian transit cities and has first place in riding habit among those cities which do not have sub-way and elevated transit developments.

Attention is turned to Figure 47, (Riding Habit) which shows the trend since 1919 of the riding habit of San Francisco. Not only in view of the growth which San Francisco has enjoyed, but also in view of an increasing number of passengers until 1926 the riding habit of the city



was being reduced. Beginning in 1926 the total number of revenue passengers began to shrink and with the onset of the depression of 1930 this shrinkage rapidly increased, reaching its lowest level in 1933 and 1934, when the general trend toward better times was reflected in an increase in the total number of revenue passengers.

Even before the depression, however, and immediately following 1926, the riding habit of the city began to decrease at an accelerating rate and of course with the decreased total of revenue passengers and the increased estimate in population the lowest point in our riding habit was found in 1934, when it was reduced approximately one-third below the high level of 1921.

It is believed that with the present transit system and methods now being employed, that this trend is significant from the viewpoint of street use, and not until a more satisfactory method of mass transportation is developed can there be expected a very large improvement in the riding habit characteristics of the city.

#### *Motor Vehicle Transportation*

A further index to the trend of traffic volume is to be found in the history of motor vehicle registration. Figure 48, (Motor Vehicle Registration) shows the manner in which the motor vehicle has come into increasing use by the citizens of San Francisco. In 1914 there were only 12,000 registered motor vehicles in the city, and at that time there were nearly as many horse-drawn vehicles, the latter figure being indicated by city license records.

The use of the motor vehicle since that time has rapidly displaced other forms of transportation, so that recent years indicate registration in excess of 160,000, or approximately one registered vehicle for every four persons in the city. That is to say, at the present time, all of San Francisco could ride in motor vehicles at the same time with only four persons in each vehicle.

The horse-drawn vehicle has practically disappeared and as previously indicated, more and more persons are availing themselves of the automobile for their transportation needs. This has brought about a steady increase in the density of street traffic. Thus, for example, in 1914 there were fewer than thirty-five registered vehicles per mile of paved street. By 1926, this figure had increased on almost a straight line to a volume of approximately 225.

Today, with approximately 660 miles of street, a large percentage of which lies on slopes which are excessive for automobile use, there is on the average in excess of 250 registered motor vehicles per mile of paved thoroughfare.

### *Distribution of Motor Vehicles*

The motor vehicle has remarkably increased practical trip distances which can be easily made, so that the motor vehicle use in San Francisco is not limited to the motor vehicles registered within the city.

A distribution of registered motor vehicles in the San Francisco Bay Area is set forth in Figure 49. Within the six adjacent counties bordering on San Francisco Bay and which naturally look to San Francisco as "The City," there are at the present time over 400,000 registered motor vehicles. Moreover, the rate of growth of this registration has been steady and constant and there is little indication that the saturation point of automobile use has been approached.

The recent completion of the San Francisco-Oakland Bay Bridge has brought in close communication with San Francisco an area in which there are approximately as many vehicles registered as are found in San Francisco alone.

On an average week day, more than 25,000 vehicles use this bridge in going to and from San Francisco from the East Bay Territory and in view of the rate of increase of registrations within the East Bay Territory, it can be confidently expected that this number will increase with such registration.

The Golden Gate has been bridged for automobile use, so that Marin and Sonoma Counties are brought into close touch with San Francisco. Within the short period of time that the Golden Gate Bridge has been in operation, there is an average week day flow of approximately 10,000 vehicles.

It is generally recognized that Marin and Sonoma Counties provide great possibilities of more intensive development for residential purposes, and inasmuch as traffic must grow with any such development, traffic from Marin County and the North will reflect the amount of such development.

Again, in San Mateo County, immediately adjacent to and South of San Francisco, there are at the present time over 30,000 registered ve-

PACIFIC OCEAN

GOLDEN GATE



PRESIDIO  
U.S. MILITARY RESERVE

# SAN FRANCISCO TRAFFIC SURVEY STREET RAILWAY MAP

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

BAY OF SAN FRANCISCO

## LEGEND

- MUNICIPAL RAILWAY DOUBLE TRACK
- MUNICIPAL RAILWAY SINGLE TRACK
- MOTOR BUS
- MARKET STREET RY. COMPANY DOUBLE TRACK
- MARKET STREET RY. COMPANY SINGLE TRACK
- CABLE LINE
- MOTOR BUS
- CALIFORNIA STREET CABLE RY. CO. DOUBLE TRACK
- JOINT MUNICIPAL & MARKET ST. RY. CO. OPERATION
- MUNICIPAL RAILWAY ELECTRIC SUB-STATION
- MARKET ST. RY. CO.
- MUNICIPAL RAILWAY PROPERTY
- MARKET STREET RAILWAY COMPANY PROPERTY
- TROLLEY BUS



NEW COUNTY LINE  
OLD COUNTY LINE





# SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108 - 5863

## STREET CAR FLOW MAP

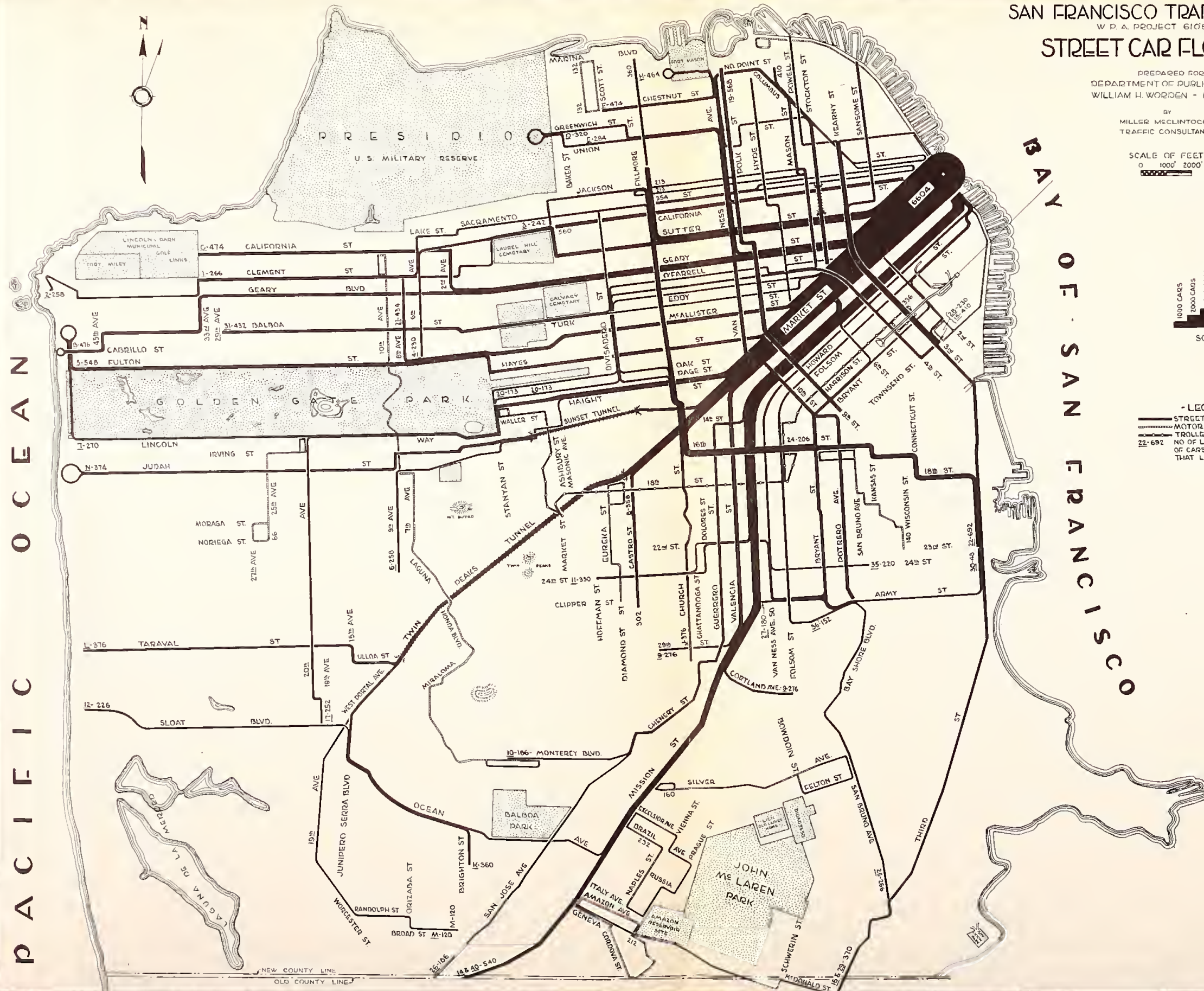
PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000' 2000'



- LEGEND -  
STREET CARS  
MOTOR BUSES  
TROLLEY BUSES  
NO OF LINE AND NUMBER  
OF CARS OR BUSES USING  
THAT LINE PER 24 HOURS





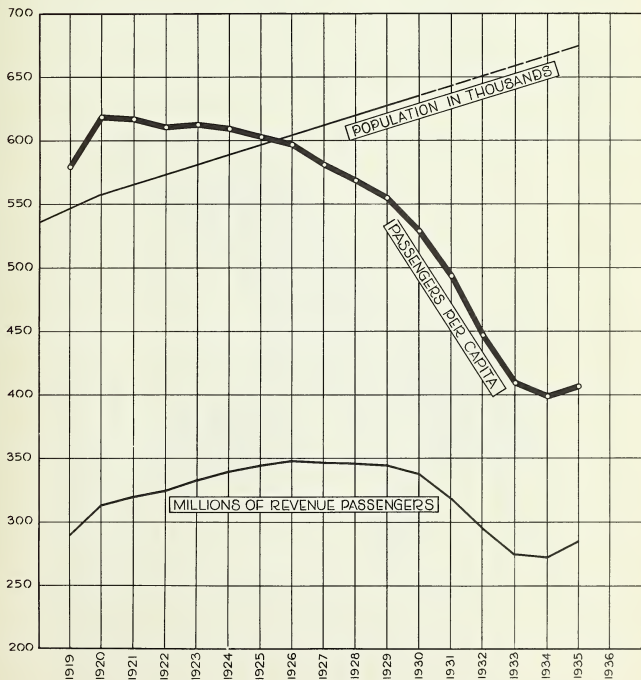
# SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108 - 5863

## MASS TRANSPORTATION RIDING HABIT

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



PASSENGER DATA FROM OPERATING COMPANIES  
POPULATION DATA FROM U. S. CENSUS BUREAU

# SAN FRANCISCO TRAFFIC SURVEY

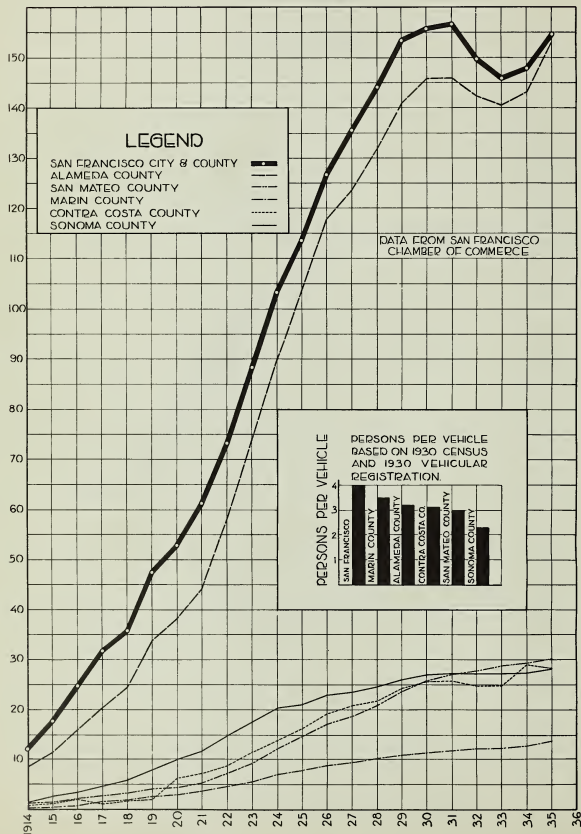
W. P. A. PROJECT 6108-5663

## MOTOR VEHICLE REGISTRATION SAN FRANCISCO & BAY COUNTIES

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

REGISTERED MOTOR VEHICLES IN THOUSANDS





# SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6105-5863

## DISTRIBUTION OF MOTOR VEHICLES

IN

### SAN FRANCISCO BAY AREA

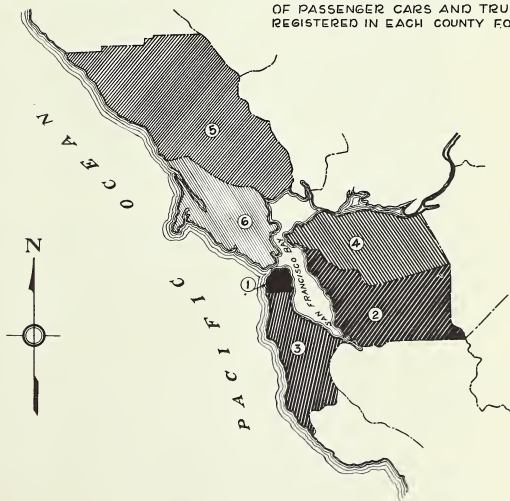
PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

#### LEGEND

COUNTY	REGISTRATION
① SAN FRANCISCO CO.	154,498
② ALAMEDA CO.	152,965
③ SAN MATEO CO.	30,439
④ CONTRA COSTA CO.	28,491
⑤ SONOMA CO.	28,197
⑥ MARIN CO.	13,586

FIGURES SHOW THE TOTAL NUMBER  
OF PASSENGER CARS AND TRUCKS  
REGISTERED IN EACH COUNTY FOR 1935



hicles. Because of the numerous arteries provided and the relative proximity of this registration, there are approximately 60,000 vehicles entering San Francisco each week day from the South.

### *Conclusion*

San Francisco is a world metropolis which has ideal advantages in world transportation, in view of its land-locked harbor. The difficulties in land transportation arising from the peninsular location have only recently been minimized by the construction of two of the most outstanding bridges in the world. These bridges, however, have limitations in their capacity to handle vehicles and the deep waters of the San Francisco Bay will always present problems of traffic within the metropolitan region.

The topography of San Francisco has complicated the difficult problems of traffic handling, and the existing street plan of San Francisco, which is unsuited to the topography of the site, has magnified the difficulties of the topography.

In the consideration of any problem, the total number of people affected is fundamental and the greater the number of persons affected, the more important the problem becomes. This metropolitan area has enjoyed a constant and steady growth of population and there is no indication that the rate of growth will markedly change, but rather that it will continue to grow, bringing about increased demands for traffic improvements.

Because of the topography of the site, the present city expansion has shown a tightly knitted type of development, so that, while perhaps the great amount of traffic expressed in number of trips is of the "short haul type," the through movements of traffic must either by-pass the congested areas or penetrate through such areas wherein the intensity of development itself is a severe problem.

San Francisco has witnessed many changes in transportation methods, and it seems that at the present time these changes are continuing. The street railways today impair the efficiency of a disproportionate amount of street area, insofar as automobile traffic is concerned.

The past two decades have indicated a vast increase in the utility of the motor vehicle. This has brought about not only an increase in street use, insofar as local traffic is concerned, but because the automo-

---

bile has increased the trade area of San Francisco, the street system of San Francisco must carry the motor vehicles from the surrounding metropolitan area.

There is no indication that there will be a reduction in traffic demands. Rather, there is every indication that there will be an increasing amount of street use and particularly through the distinctly individual and improved type of transportation which the automobile provides.

## CHAPTER III

### VEHICULAR TRAFFIC VOLUME

A basic factor in any analysis of the traffic problem is the volume of traffic movement. This factor has been fully analyzed for all important parts of the traffic pattern in San Francisco, showing when, where and in what volume actual and relative volumes are to be found.

#### *The Pattern of Traffic Flow*

The type of transportation, the traffic demands of the population, and in fact all those basic influences of traffic movement set forth in Chapter II result in the pattern of traffic movement and distribution. The existing pattern of traffic in San Francisco is set forth in Figure 55. The relative volume of traffic movement on all important arteries of travel is indicated by the relative width of band shown for each street, that is, the wider the band, which is shown, the heavier the volume of traffic flow. Absolute values may be determined by the application of the scale shown.

The volumes of traffic movement at all points in the traffic pattern were arrived at after a thorough check in the field at over 700 intersections. The counts were made continuously from 7 A.M. to 7 P.M. and show the heaviest twelve-hour period in the twenty-four hour typical week day, excluding Saturdays and Sundays. All counts were made during the months from January to June inclusive, during the current year.

This pattern of traffic flow merits thoughtful study. The most striking feature of this pattern shows a single area of concentration in which very heavy volumes of traffic movements are found on every street and upon which a large number of important routes converge. It is within the core of this area that the Central Business District is found with intensive retail and commercial operations.

The next most striking feature of this pattern is the heavy radial routes leading to this area of concentration. The importance of Third Street, to the South, to serve the Bay View - Hunter Point areas, as well as flows entering the city from the peninsula, is evident. The heaviest

single carrier of traffic in the entire city is found in the Bay Shore-Potrero Avenue route. At its heaviest point this route carries approximately 30,000 vehicles in a twelve hour period from 7 A.M. to 7 P.M. It serves as the radial route for parts of the Mission District and with its feeder, the Alemany Boulevard, taps such areas as the Ocean View, Excelsior and Amazon districts, together with important points in San Mateo County, such as Daly City and Colma. The importance of the Bay Shore route to all points in San Mateo County and the South is well known. Indeed, the movement found on the Bay Shore-Potrero Avenue route, because of its concentration to a single route, is outstanding among all traffic movements in the city. Similarly, the radial movements between the central focal area and the Mission, Sunnyside and Excelsior districts to the South are evident. This radial movement is unlike that on the Bay Shore-Potrero Avenue route, because it is spread over several parallel routes, so that any one route by itself does not show the outstanding volume found on the Bay Shore-Potrero route. The radial movement of traffic between the Central Business District and the St. Francis Woods, lower Sunset and Ingleside District, is clearly concentrated on the Portola Drive-Market Street radial route. With its system of feeders in the outlying territory this route concentrates all flows over Twin Peaks on Portola Drive. Again continuing in a clockwise study of the Map, the importance of Fell Street and Lincoln Way as a radial route is shown. Utilizing the Laguna Honda Boulevard-Seventh Avenue route, and the Nineteenth Avenue and Sunset routes, the Golden Gate Heights - Forest Hills - and upper Sunset Districts are radially connected with the central area over the Lincoln Way - Kezar Drive - Fell Street route. Attention is next turned to the Richmond area together with the Hayes Valley - Fillmore District area which lies between the Central Business District and the Richmond District. Here again, it will be found that the radial movement of traffic is dispersed over a series of routes parallel to the Geary Street alignment. The importance of Fulton Street, Turk - Balboa, Geary - Post and California Street is evident. The Pacific Heights District concentrates its load generally on Pacific Avenue or adds to the California Street radial movement toward the Central District. The Marina District traffic finds its way to the central area either by means of the Lombard Street - Van Ness Avenue route or by the Bay Street - Columbus Avenue route.

In the study of the traffic pattern attention is particularly called

to Chapter V. wherein will be found correlative studies dealing with the origin and destination of traffic movements.

In addition to the important feature of the central area and primary radial movements shown in the traffic pattern a third feature is illustrated by the volume of traffic found on such streets as Army Street and Steiner Street. Traffic on these routes is clearly "cross-town" in character. In the main, this traffic is not seeking the central area but rather is a manifestation of the inter-communication between adjacent areas. The loads found on such streets are relatively light when compared with the important radial movements. Where very large movements are found at right angles to the radial movements, it will be noted that such routes serve not only "cross-town" traffic but, by necessity, also serve as important routes to collect and distribute radial movements. Van Ness Avenue clearly illustrates this type of street. Likewise, the Embarcadero, which is primarily a route of inter-communication between the wharves and the industrial areas adjacent to the wharves, serves the Bay Street radial in its connection with the eastern portion of the central area.

#### *The Fluctuations of Traffic Movements*

The volume of traffic illustrated in Fig. 55 shows the summation of all movements found during the twelve-hour period of study. This integration does not show the manner in which traffic fluctuates and accordingly, attention is turned to Figs. 57, 59 and 61. It was found that traffic, like the tides, ebbs and floods, flows over the typical day with considerable regularity in its periodicity. The traffic movement through the intersection of Market Street and Van Ness Avenue (Fig. 57) illustrates clearly how these fluctuations take place not only on typical week days but on Saturday or Sunday as well. The lowest point of traffic flow was found between 4:00 and 5:00 in the morning and the peak of traffic movement was found between 5:00 and 6:00 in the evening. The fluctuations which take place between these two extremes is shown in Fig. 57. Study of these fluctuations shows that on a typical week day there is approximately one and one-half times as much traffic movement in a twenty-four hour period as is found in the twelve-hour period from 7 A. M. to 7 P. M. The highest per hour movement of traffic is for the twenty-four hour period ending at 6 A. M. Sunday. An average of nearly 2,000 vehicles per hour was found on a typical Saturday. On the typical mid-week day the average movement was between 1,600 and 1,700



GOLDEN GATE

# SAN FRANCISCO TRAFFIC SURVEY

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## VEHICULAR FLOW

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DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN DIRECTOR

BY  
MILLER M. CLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET

SCALE  
VEHICLES

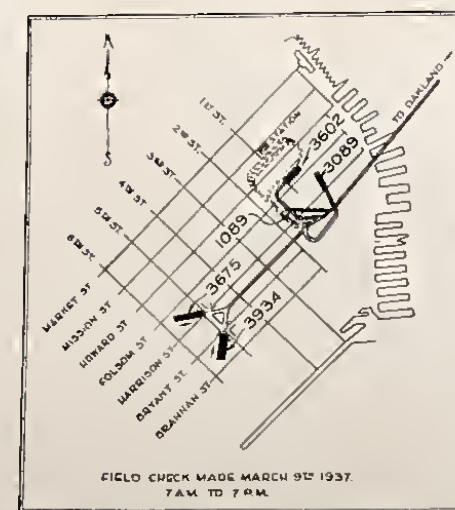
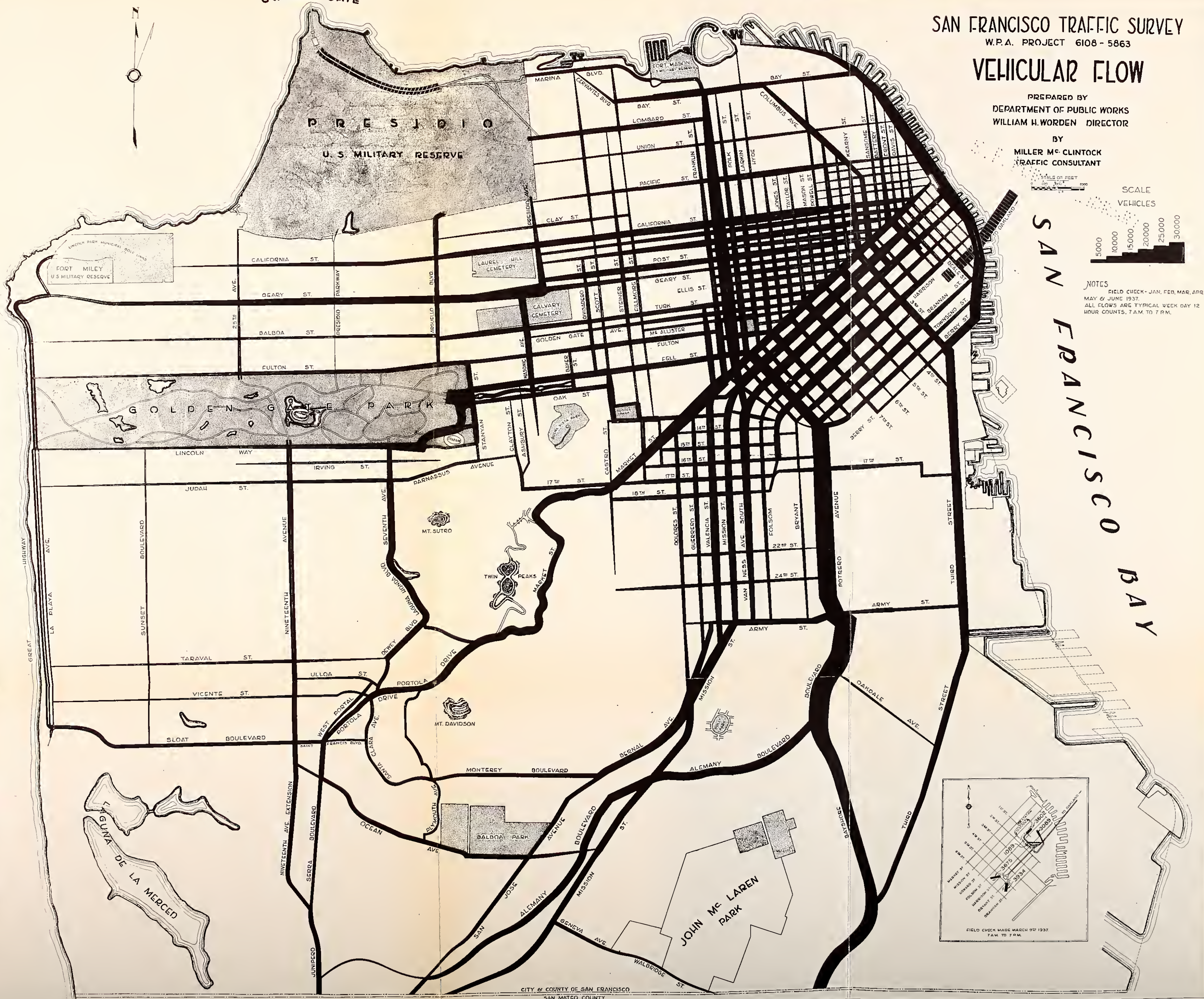


### NOTES

FIELD CHECK - JAN. FEB. MAR. APR.  
MAY & JUNE 1937.  
ALL FLOWS ARE TYPICAL WEEK DAY 12  
HOUR COUNTS, 7 A.M. TO 7 P.M.

SAN FRANCISCO BAY

PACIFIC OCEAN



CITY & COUNTY OF SAN FRANCISCO  
SAN MATEO COUNTY







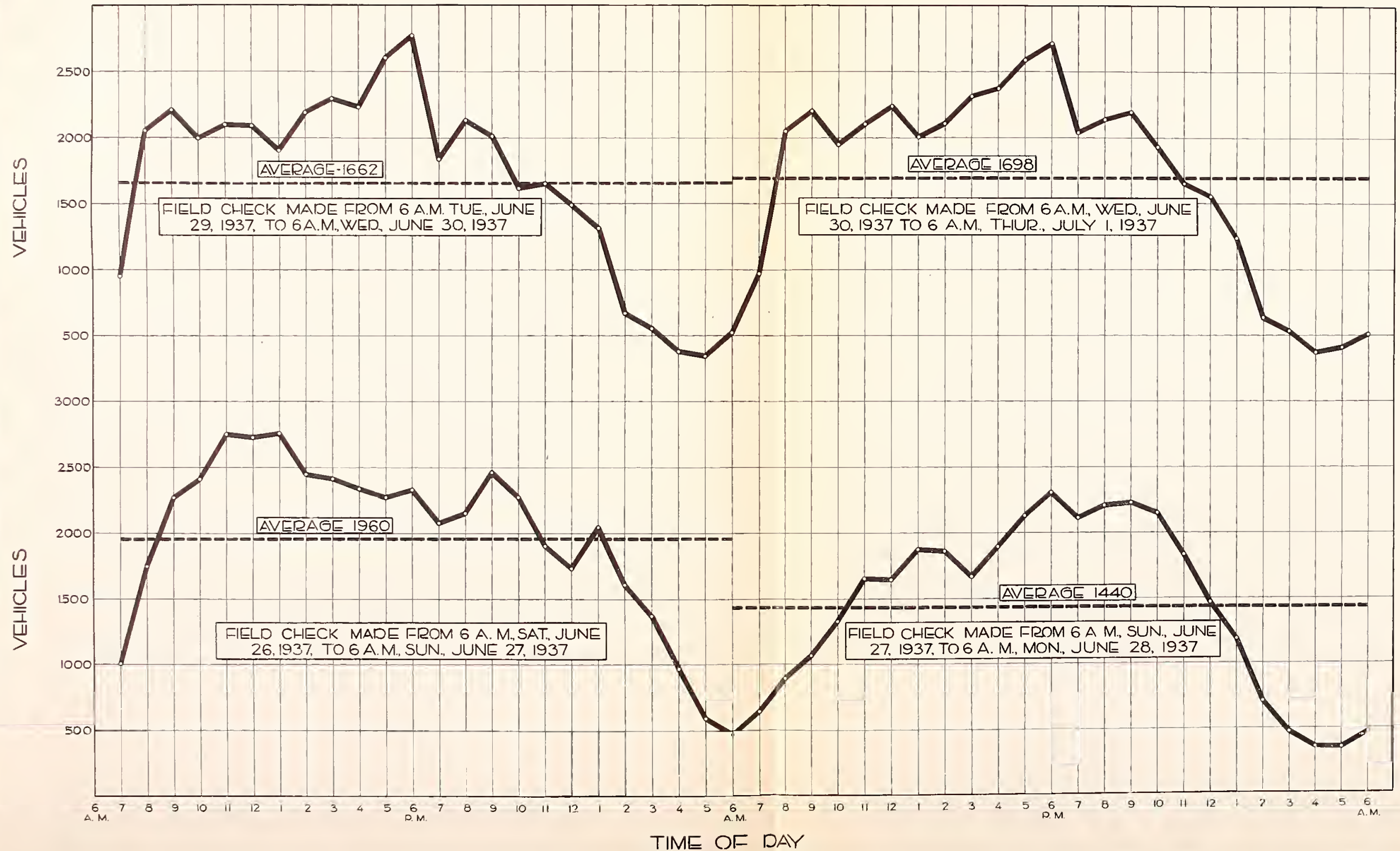
# SAN FRANCISCO TRAFFIC SURVEY

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## TRAFFIC FLUCTUATIONS MARKET ST. & VAN NESS AVE.

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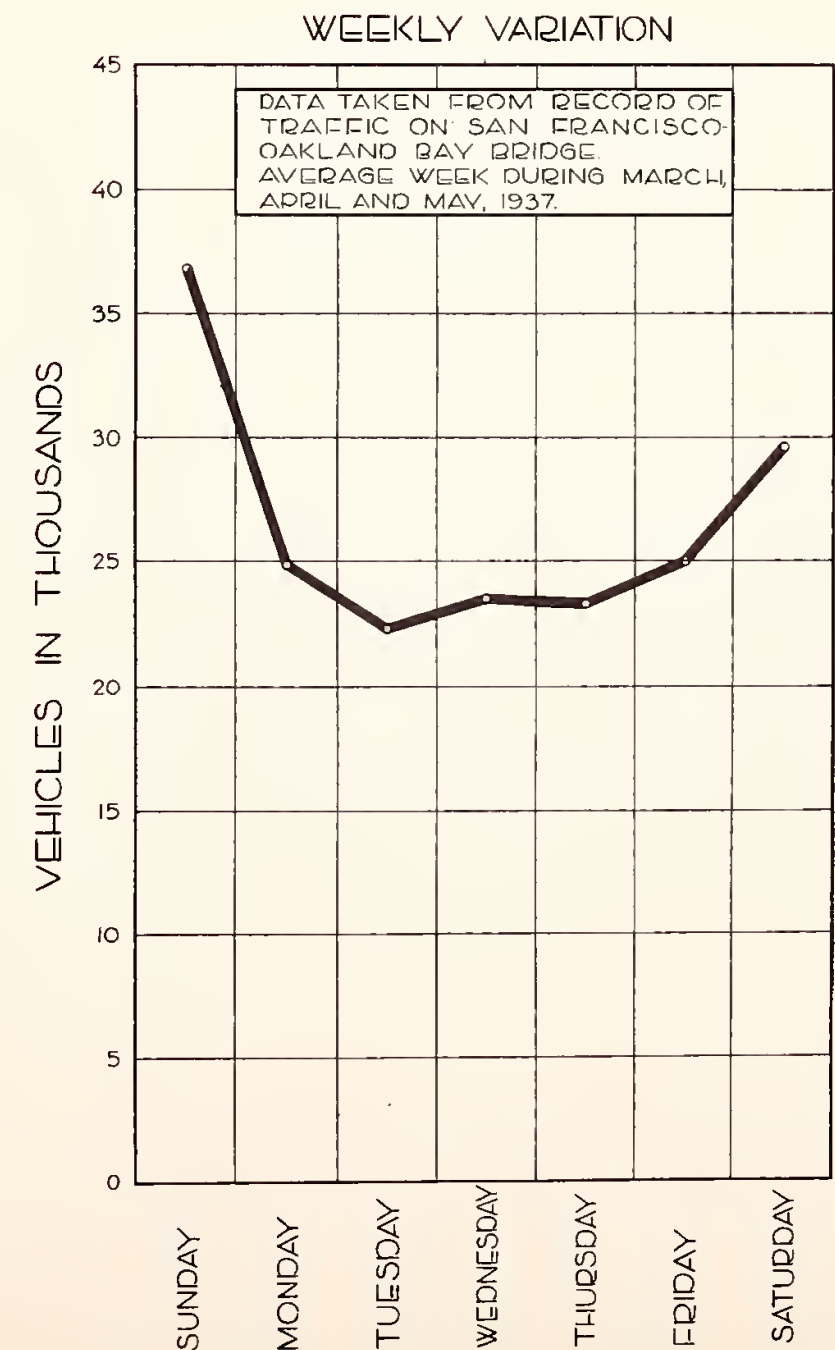
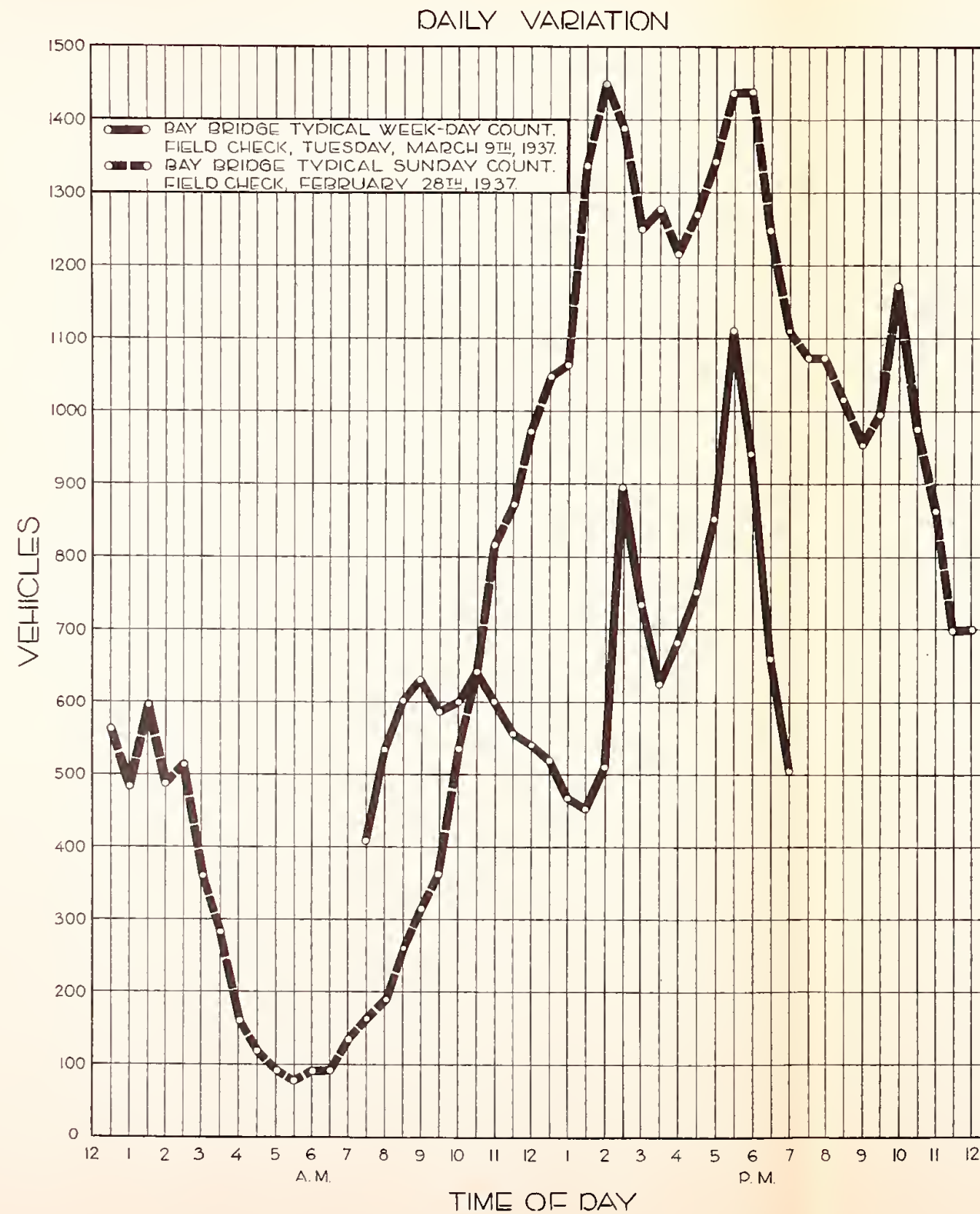


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BAY BRIDGE TRAFFIC FLUCTUATION

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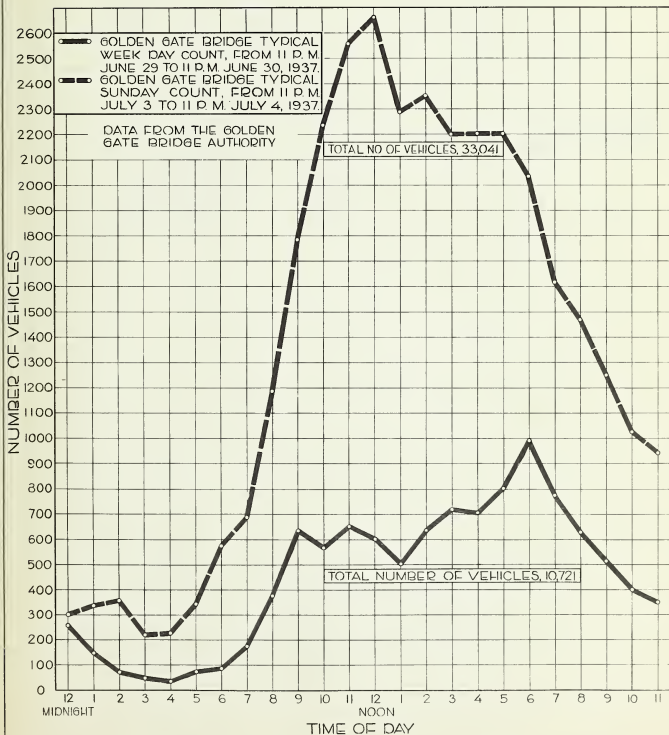




SAN FRANCISCO TRAFFIC SURVEY  
W.P.A. PROJECT 6108 - 5863  
**TRAFFIC FLUCTUATION**  
**GOLDEN GATE BRIDGE**

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vehicles per hour, whereas for a twenty-four hour Sunday period the average movement amounted to only 1,440 vehicles per hour.

The traffic fluctuations on the Bay Bridge are set forth in Fig. 59. Here it is found that the Sunday volumes are exceptionally high in comparison with week day volume. This is largely due to the movement of private passenger vehicles. The relationship of the average daily load for the Bay Bridge is also shown for the average week study during March, April and May of 1937. In this period it was found that the average Sunday carried more than 36,000 vehicles. The next lowest day was found to be Saturday when approximately 29,000 vehicles moved over the Bridge. Little fluctuation is shown for the days between Mondays and Fridays inclusive. A further study of traffic fluctuation was made for the Golden Gate Bridge. See Figure 61. Here it was found that the Sunday count of vehicles was more than three times as great as that found on week days. The average week day, carrying approximately 10,000 vehicles, shows the typical evening rush period for the hour between 5:00 and 6:00 o'clock and the lowest point of traffic movement was found between 3:00 and 4:00 in the morning.

With these fluctuations in traffic movements it becomes especially pertinent to study traffic intensities found on the more important arteries in the traffic pattern. See Figure 63. Here again relative width of band was used to show graphically the relative intensity of traffic movement. The values shown indicate the flow per lane during the peak hour of movement and in the direction indicated. They do not, in any manner, reflect the amount of time during the peak hour that the movements were stopped either by cross-flow of vehicles, pedestrians or other obstructions. They indicate the actual number of vehicles which pass during the peak hour of movement assuming uniform distribution per lane of movement. It will be noted that where ordinary amounts of delay are incurred because of cross-traffic movement that the intensity of flow per lane of movement rarely exceeds 500 vehicles per hour. At points however, where there is practically no disturbance or interruption, values exceeding 1,100 vehicles per lane per hour were found. Thus, the Embarcadero tunnel carried over 900 vehicles in the peak hour. At points on Market Street, east of Valencia, where, according to law, traffic is required to flow only in a single lane to the right of safety zones, rather high values were reached; in some instances exceeding 1,100 vehicles per lane per hour. These values, however, were only reached west of Seventh Street where the interruption of cross-traffic is very light.



GOLDEN GATE

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## VEHICULAR LANE FLOW

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SCALE OF FEET  
0 500 1000 1500

SCALE  
VEHICLES  
250 500 750 1000 1250 1500

SAN FRANCISCO BAY

- LEGEND
- ④④④ CARS PER LANE IN PEAK HOUR
  - ④ TOTAL LANES OF STREET
  - DIRECTION OF FLOW
  - 3 LANE NO. SIDE OF LINCOLN WAY
  - 3 . . . . . FULTON ST
  - 3 . . . . . OAK ST
  - 2 . . . . . WEST ST
  - 2 . . . . . STANTON ST

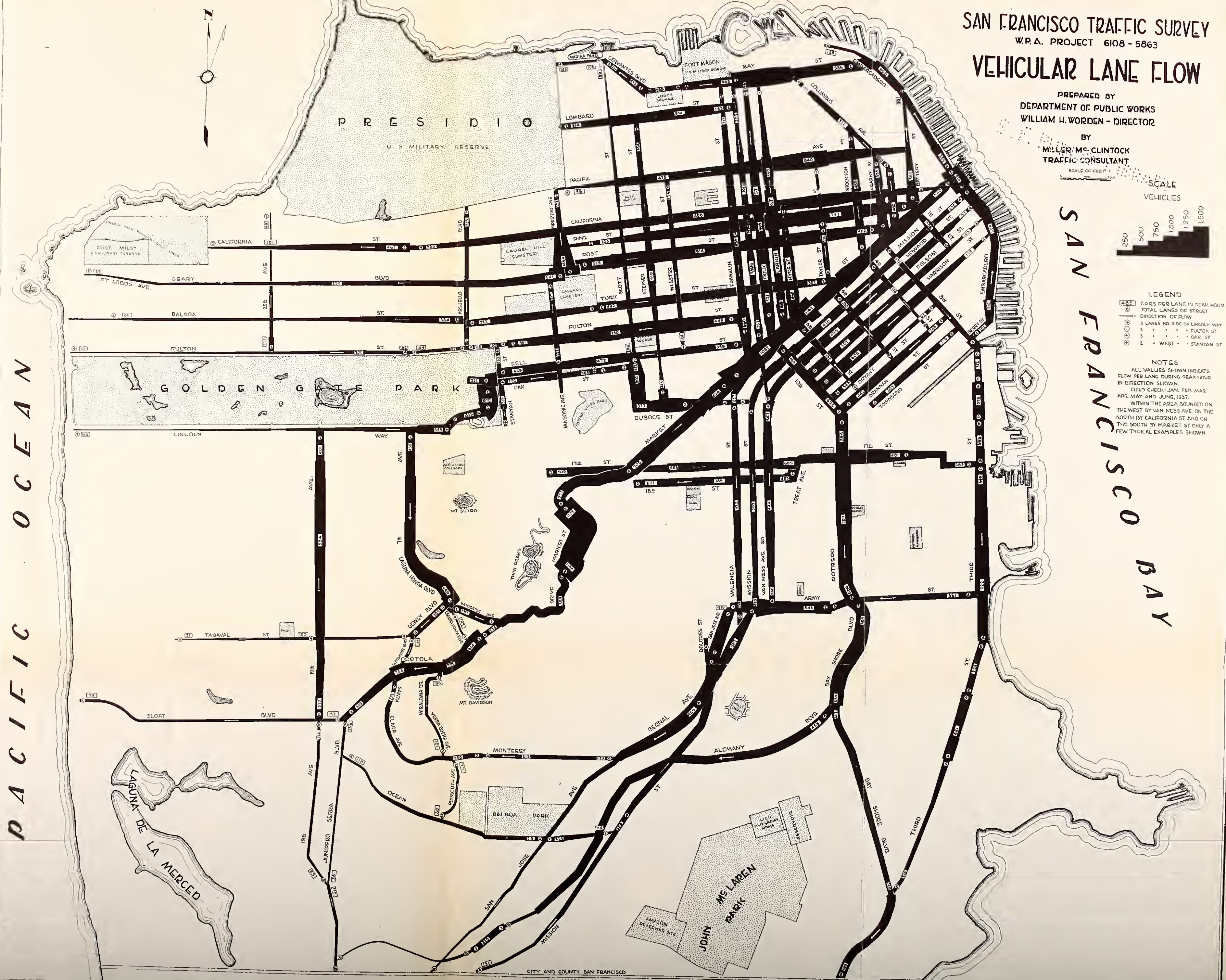
NOTES

ALL VALUES SHOWN INDICATE FLOW PER LANE DURING PEAK HOUR IN DIRECTION SHOWN.

FIELD CHECK - JAN. FEB. MAR. APR. MAY AND JUNE, 1937.

WITHIN THE AREA BOUNDED ON THE WEST BY VAN NESS AVE. ON THE NORTH BY CALIFORNIA ST. AND ON THE SOUTH BY MARKET ST. ONLY A FEW TYPICAL EXAMPLES SHOWN.

PACIFIC OCEAN









Between Seventh Street and Hyde Street, for example, where the Seventh Street movement crosses Market Street by jogging into Leavenworth Street, an exceptional intensity of movement was found. On Presidio Avenue, southbound at Geary, where almost continuous movement is afforded through right-hand turns, the heaviest single intensity was shown and was found to approach 1,500 vehicles per hour on the basis of only two lane movement on Presidio Avenue. As a matter of fact, with the complete elimination of parking, traffic can generally move in two lanes southbound at this point so that the figure of 1,464, shown on the Map, is reduced to slightly more than 700 with the complete elimination of parking and other interference in the marginal lane.

### *Intersection Intensities*

It is at the intersection that the critical point of traffic movement is reached, for the intersection must not only handle travel along any given route but must also stop such travel intermittently to permit cross movements to take place. The flow of traffic at twenty-five heaviest intersections, discovered by the Survey, is set forth in Table 66. Each of these twenty-five intersections carries in excess of 24,000 vehicles during the twelve-hour period from 7 A. M. to 7 P. M. Analysis of all counts indicates there are 337 intersections in San Francisco which carry 10,000 or more vehicles for the twelve-hour period from 7 A. M. to 7 P. M. The number of intersections by various volumes is set forth in Table 66-A.

The relative intensity of traffic movement at each of these intersections is graphically set forth in Figure 69. The headway values indicate the average time spacing between vehicles per lane during the intervals of actual movement. That is to say, the peak hour of two intersecting lanes is used as a base for the headway shown and the headway represents the actual average time spacing for uninterrupted flow per lane of traffic during the peak hour. Each of these intersections demands full regulatory control in order to establish orderly movement of traffic through the intersection. This should be either by the installation of traffic signals or by the use of channelizing islands or by other methods. It is recommended that each of these intersections be given full control not only to minimize congestion but also to reduce hazards which are inherent with such intensive movement of traffic.

TABLE 66

## FLOW OF TRAFFIC AT THE TWENTY-FIVE BUSIEST INTERSECTIONS

12 HOUR COUNTS—7 A. M. TO 7 P. M.

<i>Station No.</i>	<i>Location</i>	<i>Flow</i>
D.S. 92	Army St., and Potrero Ave.....	32,084
G.S. 3	Bay Shore Blvd., and Oakdale Ave.....	30,481
D.S. 1	Potrero Ave., and Seventeenth St.....	29,953
A.S. 2	Otis-Mission and Twelfth Sts., and Van Ness Ave. So.....	29,710
G.S. 4	Bay Shore Blvd., and Cortland Ave.....	29,314
C.S. 11	Brannan-Division Sts.,—Potrero Ave., and Tenth St.....	29,063
G.S. 6	Bay Shore Blvd., and San Bruno Ave.....	28,026
J.S. 55-83	Gough-Haight-Market and Valencia Sts.....	27,959
G.S. 5	Alemany and Bay Shore Blvds.....	27,729
A.S. 4	Mission and Tenth Sts.....	27,440
F.N. 3	California St., and Van Ness Ave.....	26,922
D.S. 74	Potrero Ave., and Twenty-fourth St.....	26,877
A.S. 37	Harrison and Tenth Sts.....	26,808
Master	Eleventh-Market and Oak Sts.-Van Ness Ave., and Van Ness Ave. So.....	26,787
A.S. 16	Howard and Tenth Sts.....	26,708
F.N. 114	Market-Fell-Polk and Tenth Sts.....	26,037
D.S. 54	Potrero Ave., and Twenty-first St.....	25,975
F.N. 46	Post St., and Van Ness Ave.....	25,897
D.S. 22	Potrero Ave. and Sixteenth St.....	25,531
A.N. 24	Ellis-Fourth-Market and Stockton Sts.....	25,307
F.N. 27	Bush St., and Van Ness Ave.....	24,895
A.S. 10	Fourth and Mission Sts.....	24,837
A.S. 8	Mission and Sixth Streets.....	24,532
F.N. 87	Golden Gate and Van Ness Aves.....	24,406
F.N. 94	McAllister St. and Van Ness Ave.....	24,364

TABLE 66-A

## HEAVY FLOW INTERSECTIONS

## CLASSIFIED BY VOLUMES

<i>Twelve Hour Volumes</i>	<i>No. of Intersections</i>
10,000 .....	55
11,000 .....	42
12,000 .....	38
13,000 .....	45
14,000 .....	33
15,000 .....	23
16,000 .....	11
17,000 .....	11
18,000 .....	12
19,000 .....	11
20,000 .....	7
21,000 .....	8
22,000 .....	8
23,000 .....	7
24,000 .....	6
25,000 .....	5

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26,000	.....	6
27,000	.....	3
28,000	.....	1
29,000	.....	3
30,000	.....	1
31,000	.....	0
32,000	.....	1
Total	.....	<hr/> 337

### *Traffic Concentrations*

As previously pointed out, there is a single, central focal area of traffic concentration and within this area, where pedestrian movement, as well as vehicular movement, is especially intense, will be found the primary retail, commercial and amusement activities in the city. The vehicular traffic movements within the Central Business District are set forth in Figure 71. The actual volume of traffic on streets in this area is not exceptionally high especially when compared with the movement on the radial thoroughfares. It is within this area that vehicular movement stops and persons, who were passengers in motor vehicles, become pedestrians. (See Chapter VI, "Pedestrian Movement," and Chapter VIII, "Parking.") In order to determine the amount of concentration within the Central Business District a cordon count was made for the sixteen hour period from 7 A. M. to 11 P. M. The Survey is indebted to the Municipal Railway and the Market Street Railway for their cooperation in assisting the Survey by checking the traction movements and the passengers on street cars which entered and left this district during the period of study. The relative importance of each gateway as a carrier of vehicles is set forth in Figure 73. It will be noted that during the period of study nearly twenty per cent of the traffic enters or leaves the district from the north, twenty-three and one-half per cent use the gateways to the south, approximately thirteen per cent enters the district from the east, and the remainder enters or leaves the district from the west. The movement of persons into the district is set forth in Figure 75.

The fluctuation of traffic entering and leaving the Central Business District is set forth in Figures 77 and 79. The vehicular traffic increases rapidly after 7:00 o'clock in the morning to a morning peak value of approximately 10,500 carriers moving in and out of the district at all gateways for the half-hour period ending at 9:00 o'clock. Thereafter, the vehicular traffic declines to a mid-day low when approximately 7,600 vehicles enter and leave the district during a half-hour period. Following 1:00 o'clock, Central Business District traffic increases sharply to a

maximum interchange of over 13,000 vehicles for the half-hour period ending at 5:30 in the afternoon; thereafter, the traffic interchange between the Central District and the remainder of the city rapidly declines, and except for the slight increase from 7:00 to 8:30 in the evening, this decline continues throughout the remainder of the day.

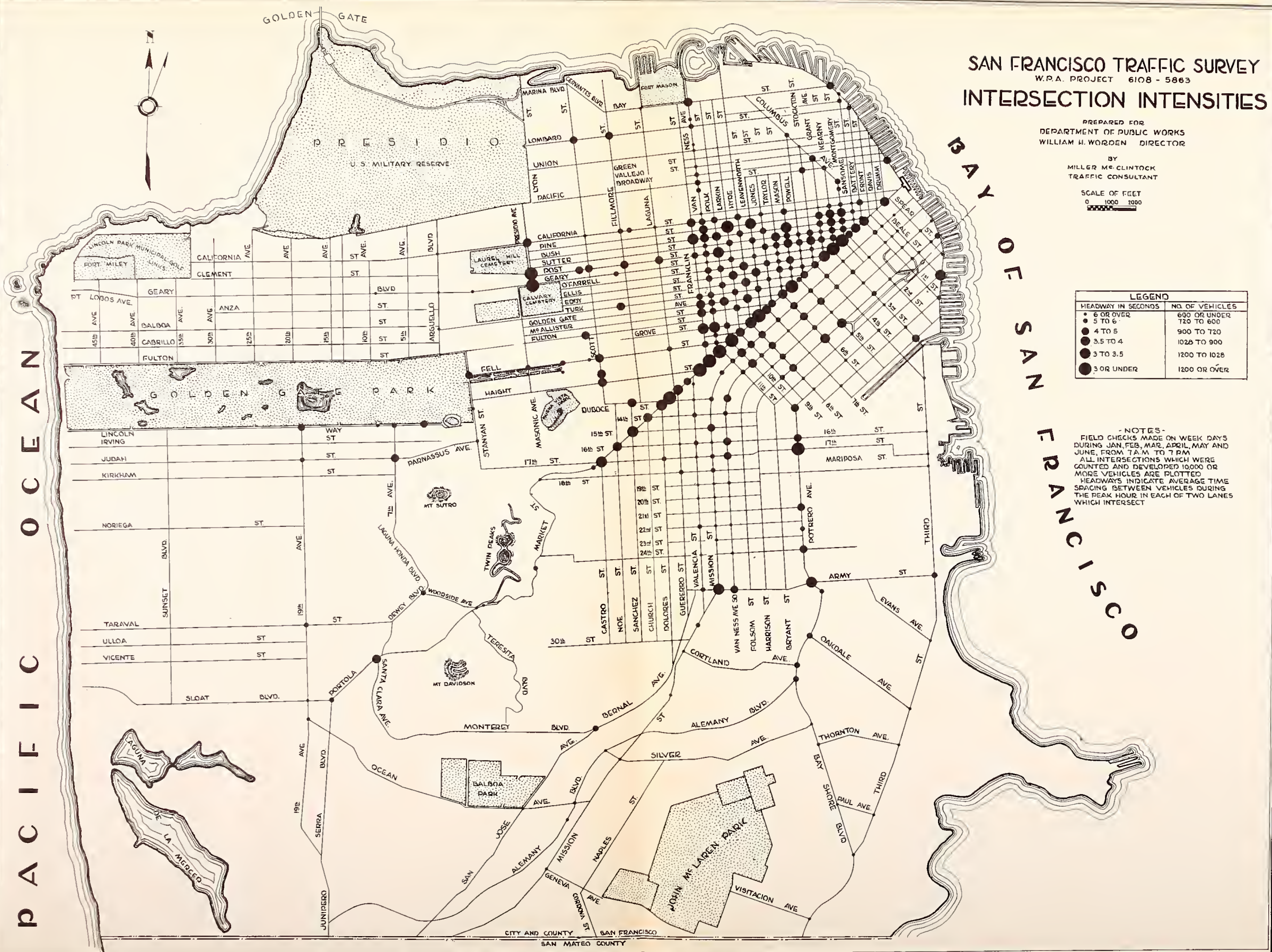
It is found that 77.44 per cent of all vehicular traffic interchange between the Central Business District and the remainder of the city is of the passenger automobile type. About fifteen and one-half per cent of the traffic which enters and leaves the Central Business District is trucks. Street cars make up a total of 6.93 per cent and only a trace of bus movement is found.

In connection with this movement of traffic the accumulation of vehicles in the Central Business District at any period of the day is readily determined. The results of this cordon check showed a very rapid accumulation of vehicles until 11:00 o'clock in the morning. Thereafter accumulation of vehicles within the Central Business District continues, but at a slower rate than previously, until a maximum accumulation of nearly 10,000 vehicles is reached. This maximum accumulation occurs about 4:30 in the afternoon. Thereafter, there is a very sharp shrinkage in the number of vehicles within the Central Business District until 7:30 P. M., when nearly 6,000 carriers were still found to remain in the district. With the increased traffic for evening entertainment, there was found an increase in the accumulation of traffic within the area. This increase continued until approximately 8:30, thereafter the decline set in for the remainder of the check.

This curve of accumulation of vehicles in San Francisco is rather unusual, in that the maximum accumulation occurs nearly two hours later in the afternoon than in most American cities. The maximum accumulation of vehicles occurs usually between 2:00 and 3:00 P. M. The large amount of traffic remaining in the district after normal working hours also is exceptionally high for the average city. It is believed that this unusual number of carriers found in the district during the late afternoon and evening can be ascribed to the exceptional concentration of recreational facilities in the Central District.

Attention is next turned to the accumulation of persons within the Central District. The fluctuation in the rate of persons in the district is quite similar to the fluctuation of vehicular movement, except that there is an increase of movement from noon until 1:30, which is contrary









# SAN FRANCISCO TRAFFIC SURVEY

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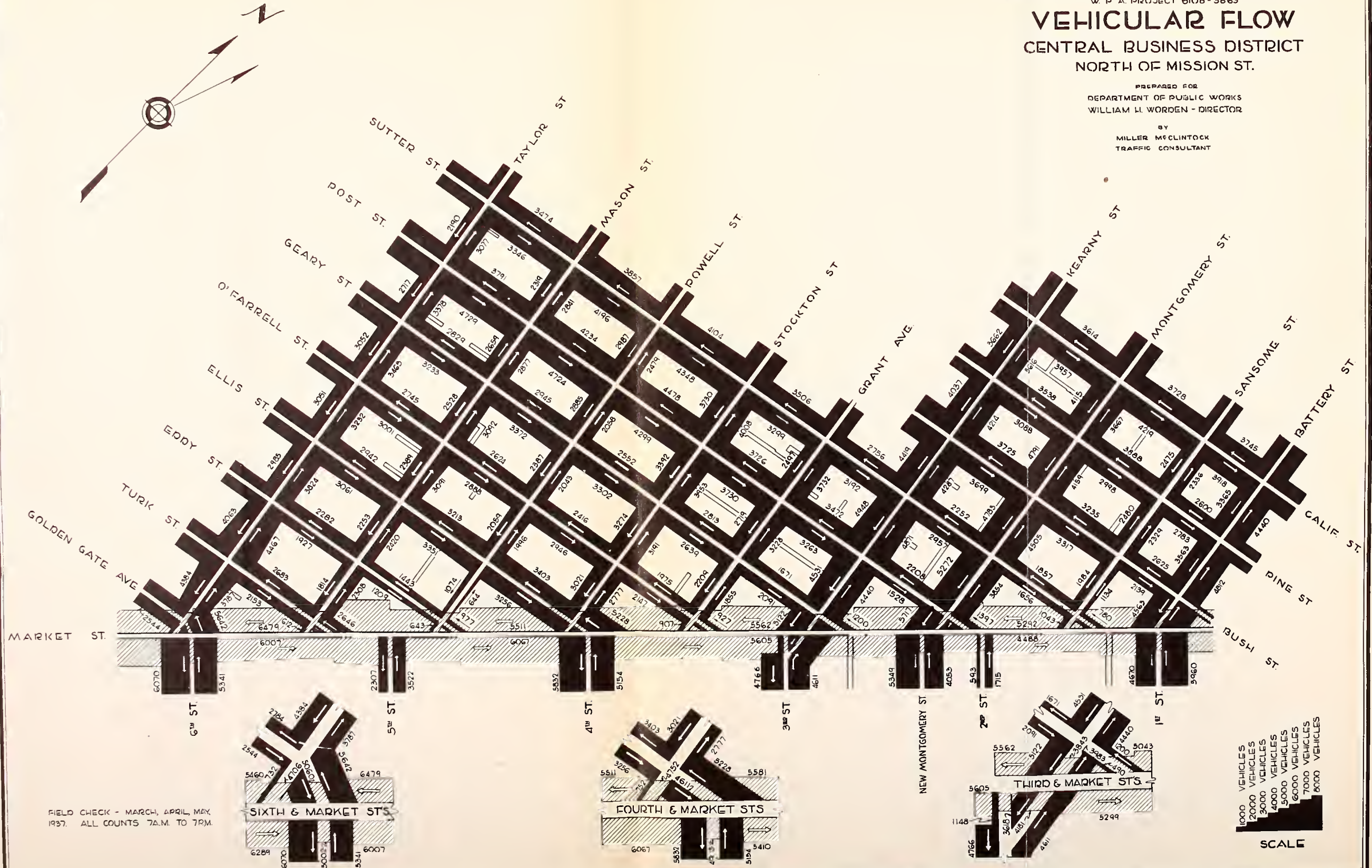
## VEHICULAR FLOW

### CENTRAL BUSINESS DISTRICT

#### NORTH OF MISSION ST.

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BY  
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TRAFFIC CONSULTANT





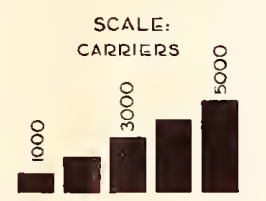


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## VEHICULAR TRAFFIC CENTRAL BUSINESS DISTRICT CORDON

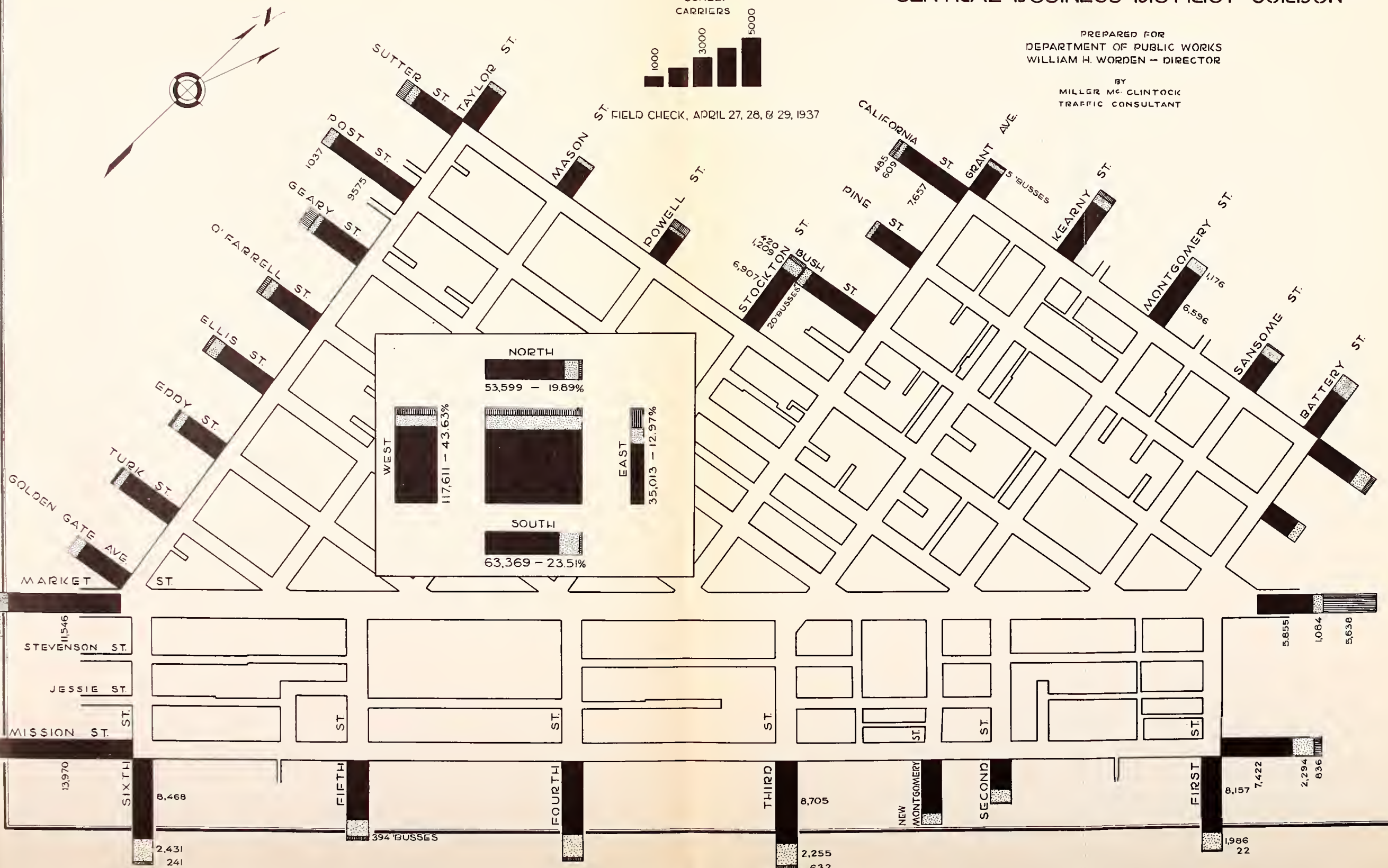
- LEGEND**
- AUTOMOBILES, TAXICABS & JITNEYS
  - TRUCKS
  - STREET CARS, EXCEPT WHERE NOTED



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BY  
MILLER MC CLINTOCK  
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ST. FIELD CHECK, APRIL 27, 28, & 29, 1937







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## MOVEMENT OF PERSONS CENTRAL BUSINESS DISTRICT CORDON

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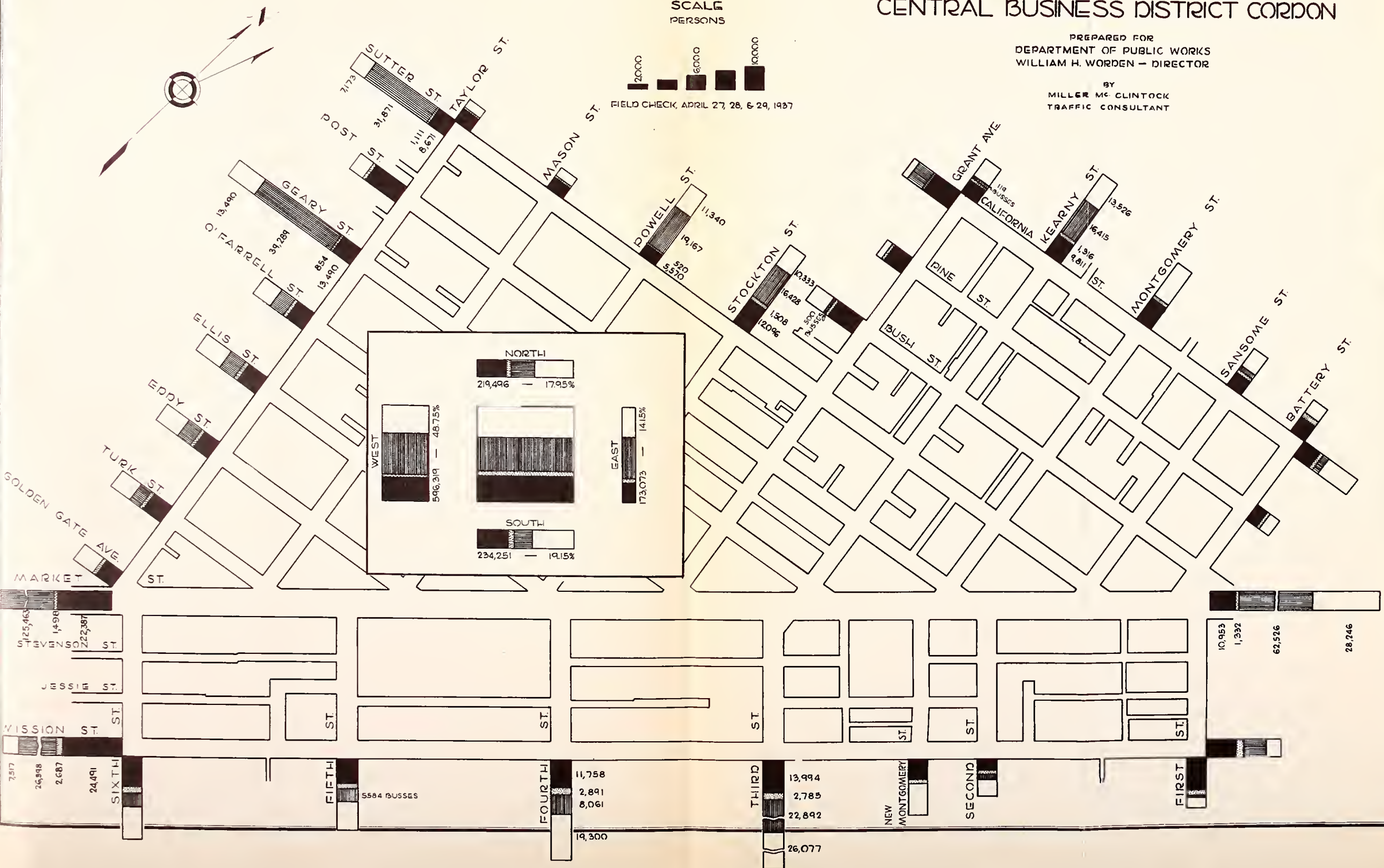
BY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

- LEGEND
- PERSONS IN AUTOMOBILES, TAXICABS & JITNEYS
  - PERSONS IN TRUCKS
  - PERSONS IN STREET CARS, EXCEPT WHERE NOTED
  - PERSONS - WALKING

SCALE  
PERSONS



FIELD CHECK, APRIL 27, 28, & 29, 1937







## SAN FRANCISCO TRAFFIC SURVEY

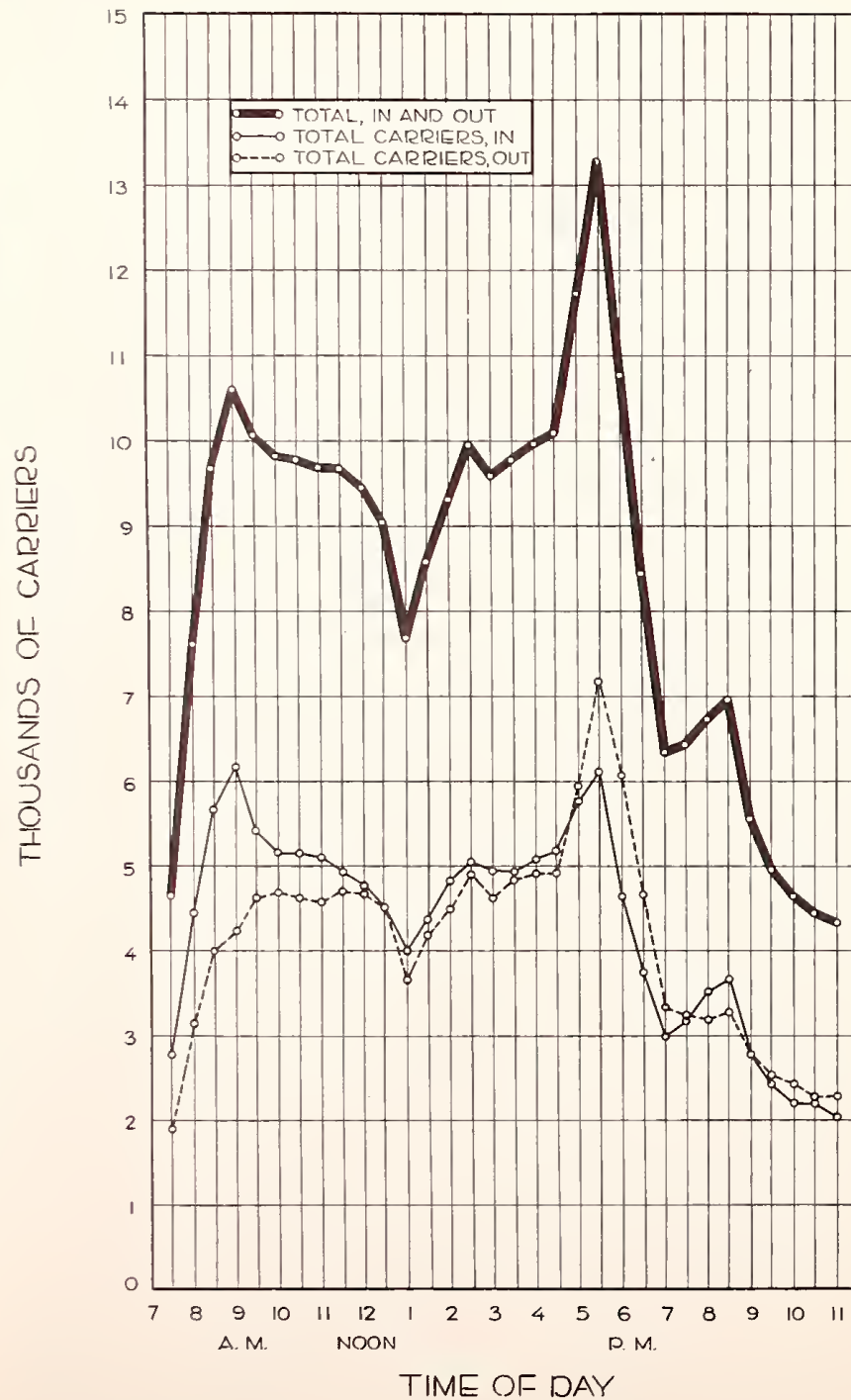
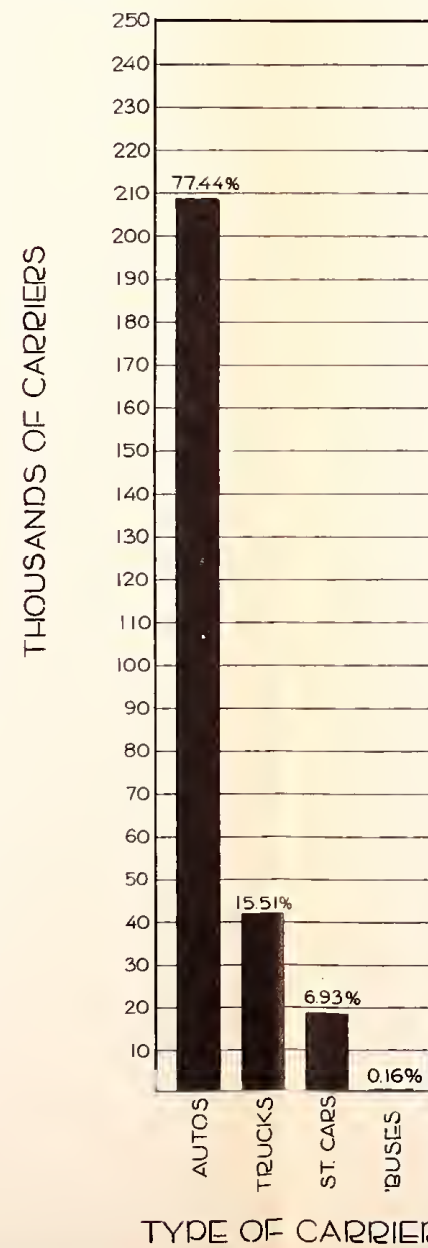
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CORDON COUNT  
VEHICULAR TRAFFIC

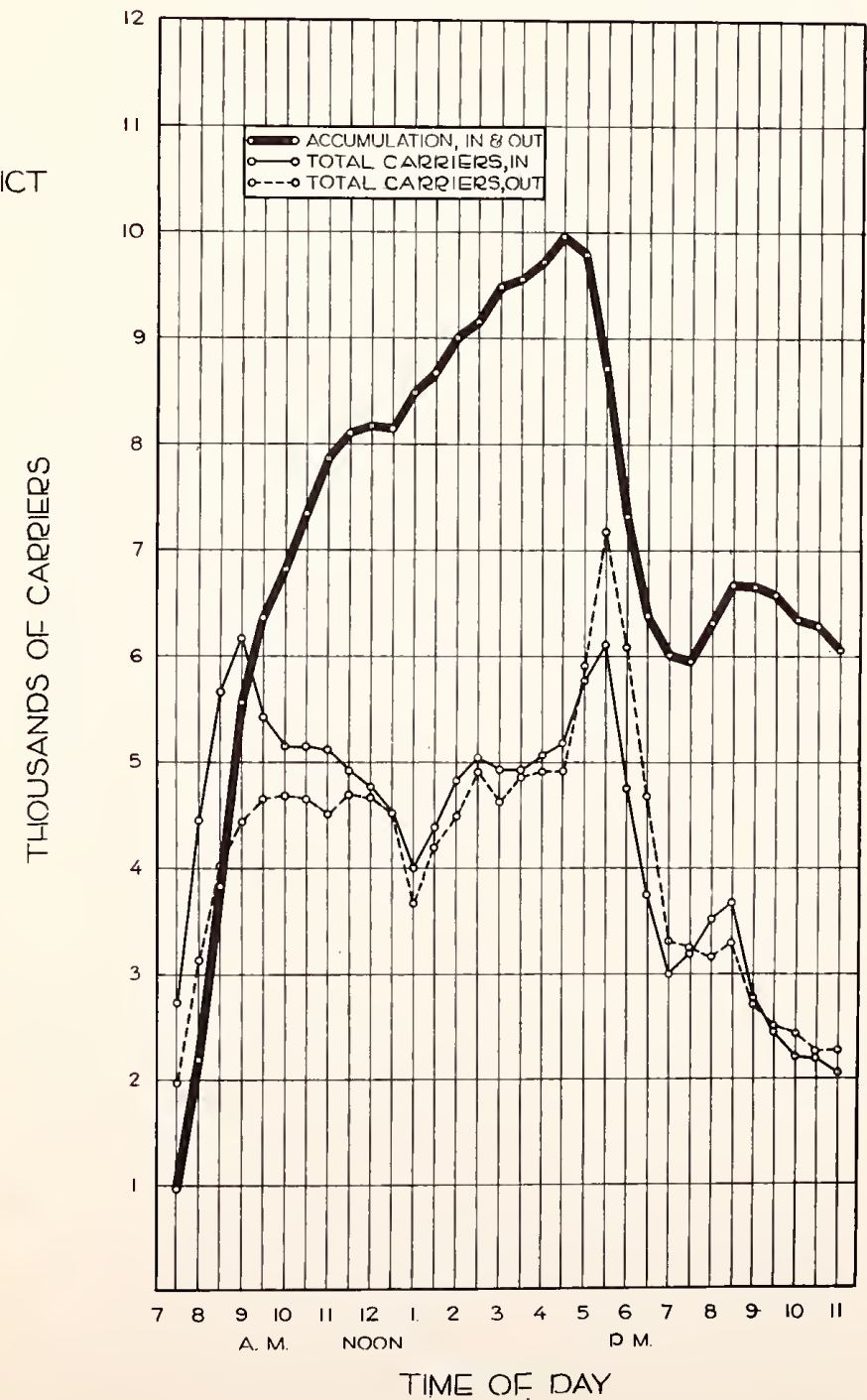
FIELD CHECK, APRIL 27, 28, &amp; 29, 1937.

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MILLER MCCLINTOCK  
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## FLUCTUATION OF VEHICLES

TYPES OF CARRIERS  
ENTERING AND LEAVING  
CENTRAL BUSINESS DISTRICT

## ACCUMULATION OF VEHICLES





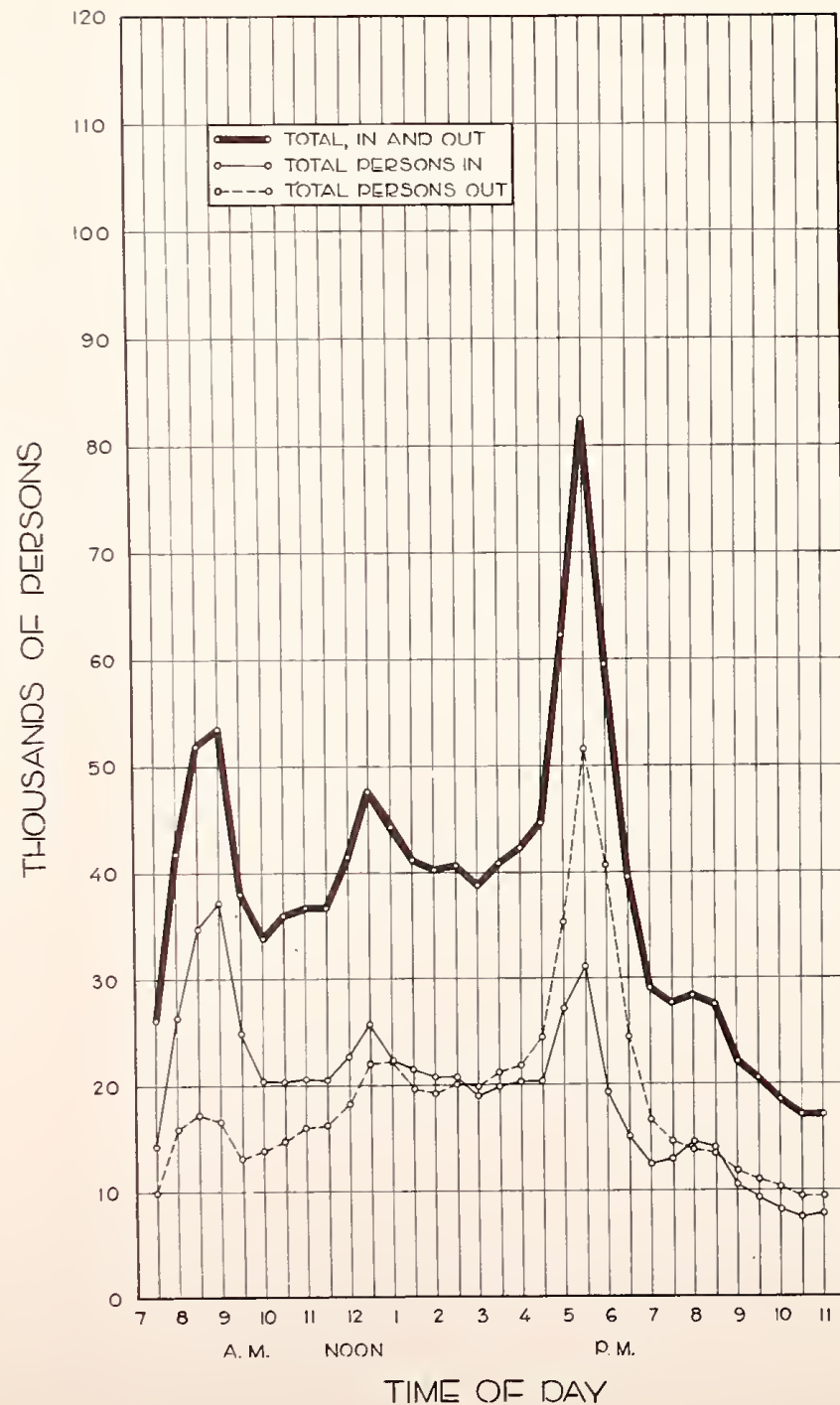
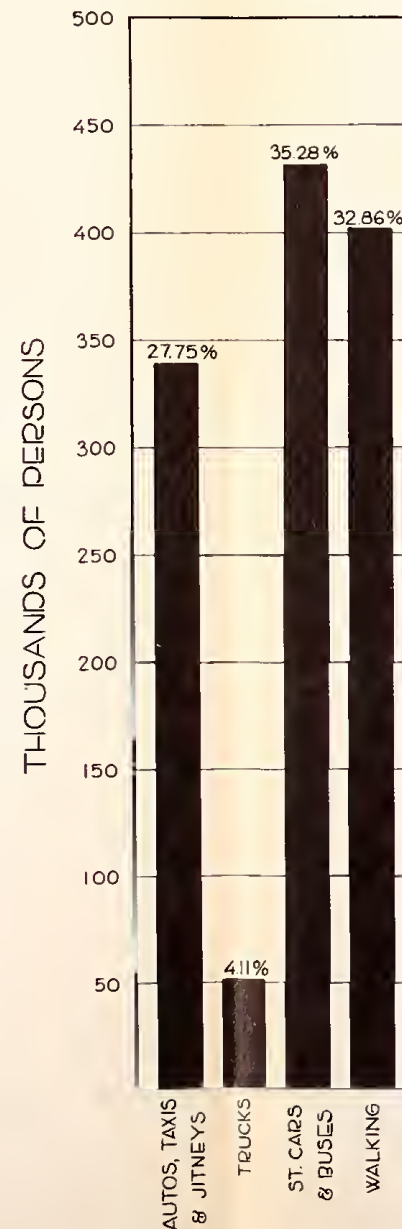
## SAN FRANCISCO TRAFFIC SURVEY

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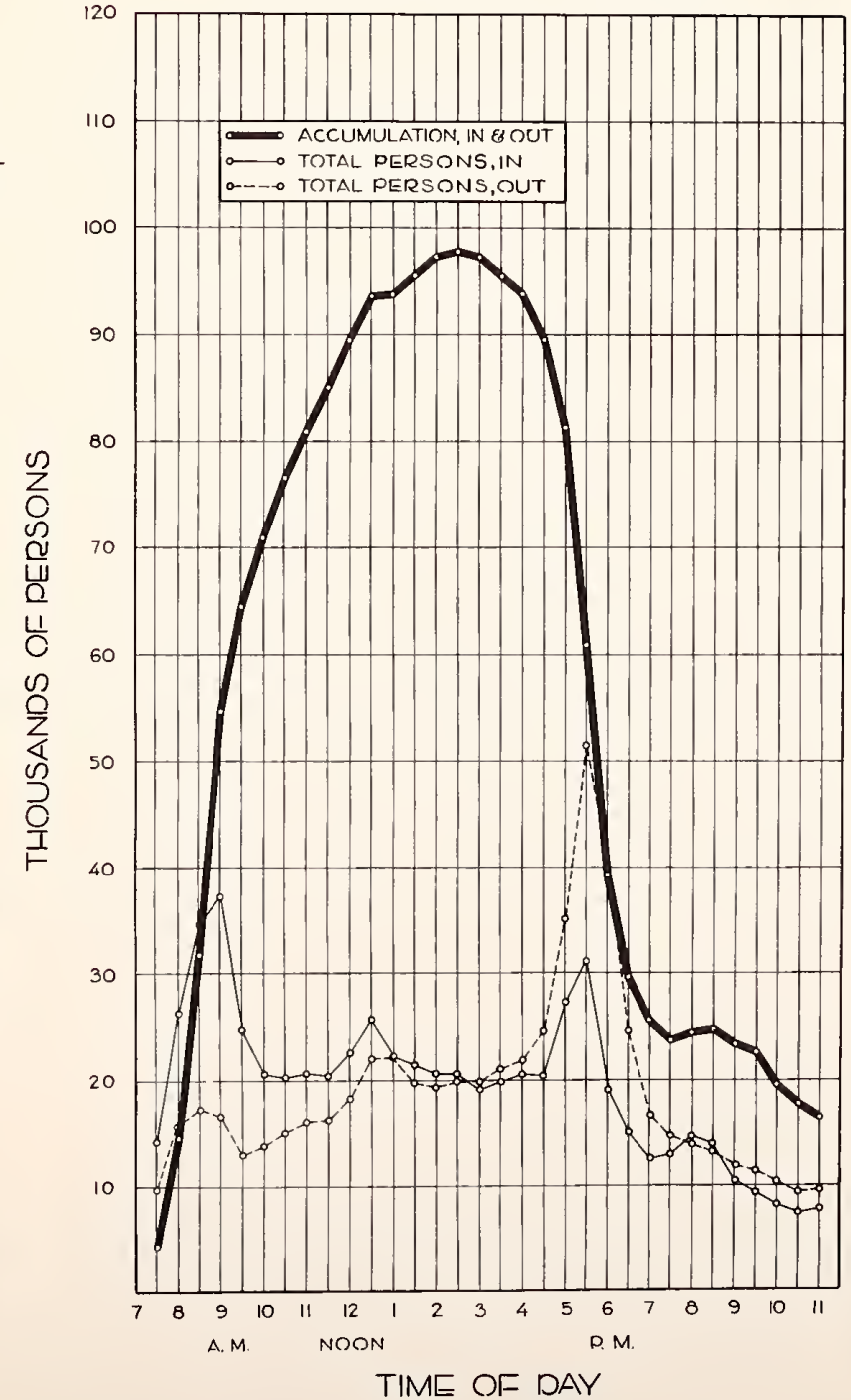
CORDON COUNT  
MOVEMENT OF PERSONSPREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTORBY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

FIELD CHECK, APRIL 27, 28, &amp; 29, 1937.

## FLUCTUATION OF PERSONS

MODE OF TRANSPORTATION  
OF PERSONS ENTERING  
CENTRAL BUSINESS DISTRICT

## ACCUMULATION OF PERSONS





to the lack of vehicular movement found during this hour. This traffic is largely composed of persons walking during the noon lunch period.

The method of transportation used by persons entering and leaving the Central Business District is also set forth in Figure 79. Mass transportation facilities serve approximately thirty-five per cent of the total number of persons entering or leaving the district. Passenger vehicles accommodate nearly twenty-eight per cent, and an unusually large number of persons were found to enter or leave the district as pedestrians. Unquestionably, this is due to the proximity of the large number of apartment house dwellings immediately adjacent to the Central Business District, particularly on the slopes of Nob Hill.

It is of interest to note the changes which have taken place in the method of transportation used by persons entering and leaving the Central Business District. A similar check of such movement made in 1926 furnishes a satisfactory basis for comparison; the results of this comparison are set forth in Table 81.

TABLE 81

METHODS OF TRANSPORTATION USED BY PERSONS ENTERING  
AND LEAVING THE CENTRAL BUSINESS DISTRICT  
IN 1926 AND 1937

<i>Mode of Transportation</i>	<i>Percentage November 1926</i>	<i>Percentage April 1937</i>	<i>Per Cent Increase</i>
Autos, Taxis, and Trucks.....	24.20	32.27	+ 8.17
Street Cars .....	45.20	34.77	—10.43
Walkers .....	30.60	32.86	+ 2.26

It will be noted in Table 81 that there has been a slight increase in the ratio of pedestrians entering and leaving the district. Since 1926, motor vehicles have increased the number of passengers served by over eight per cent, whereas mass transportation facilities have decreased by nearly ten and one-half per cent. This confirms the changes which are taking place in the methods of transportation as previously discussed in Chapter II.



*Growth of Vehicular Volume*

The effect of the increased flow of motor vehicles of six typical intersections since 1912 is set forth in Figure 83. It will be noted that in most instances, traffic through those intersections has increased from two to four times that amount of traffic found in 1912. Even in the Central District, such intersections as O'Farrell and Stockton, and Post and Kearny Streets have shown increases from approximately 500 per hour to over a thousand per hour on O'Farrell and Stockton Streets, and over 1,400 per hour on Post and Kearny Streets.

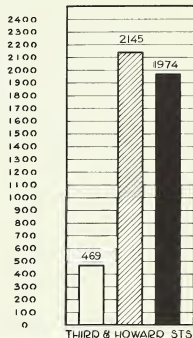
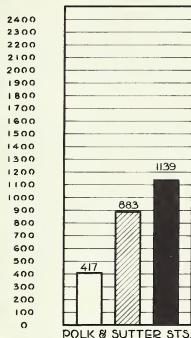
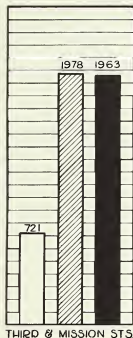
# SAN FRANCISCO TRAFFIC SURVEY

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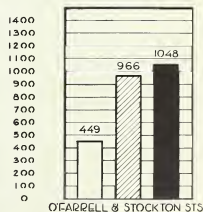
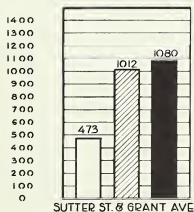
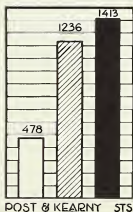
## VEHICULAR VOLUME COMPARISON

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



ALL VERTICAL ORDINATES REPRESENT VEHICLES PER AVERAGE HOUR



□ 1912 COUNT, TAKEN FROM "REPORT ON TRANSPORTATION FACILITIES, CITY OF SAN FRANCISCO" BY BION J. ARNOLD

▨ 1926 COUNT, TAKEN FROM "REPORT ON THE STREET TRAFFIC CONTROL PROBLEM OF SAN FRANCISCO" BY MILLER MCCLINTOCK

■ 1937 COUNT, SAN FRANCISCO TRAFFIC SURVEY

THE 1926 AND 1937 FIGURES SHOW TYPICAL WEEK DAY FIELD CHECK FROM 8:00 A.M. TO 12:00 NOON AND 2:00 P.M. TO 6:00 P.M.

## CHAPTER IV.

### TRAFFIC SPEEDS AND DELAYS

The greatest single advantage of the modern motor vehicle is its speed and the consequent rapid transportation which it provides. The convenience, the comfort, safety, beauty and many other attributes of the modern automobile are all admittedly real advantages, but unquestionably the primary advantage of the motor car will be found in its speed characteristics.

Without this primary benefit of speed, it is not too much to say that the use of the automobile would never have advanced to its present proportions. Any intelligent consideration of the street traffic problem must therefore include a study of the limitations imposed on motor vehicles which affect the facility or freedom of flow. Present traffic investigations have, therefore, been designed to include a thorough study of speeds and delays now existing in the primary traffic routes throughout the city.

#### *Purpose and Method of Study*

With this basic point of view in mind, the direct purpose of this particular study has been to determine how time is spent in traffic and the resultant speeds which prevail. A knowledge of the distribution of time lost by various reasons in the use of the streets by motor vehicles, will provide a measure of the efficiency of the street for such use. Without full knowledge as to where, why, and to what extent delays are incurred, there cannot be accurately established any standards of comparison, nor can there be intelligently designed measures which will improve the efficiency of traffic movement.

The problem therefore, has been to determine the length of time required to cover known distances, and moreover to determine just how much of such time is lost in various types of delays and why such delays were incurred. The method employed consisted in operating an observation vehicle with driver, observer and recorder, over each street considered sufficiently important to study. The observation vehicle was driven so as to "float" with traffic, care being taken that it was driven

neither faster nor slower than the general movement of passenger automobiles.

The rule generally followed was to overtake no more automobiles than the number which overtook the observation vehicle. All traffic rules and regulations were strictly observed, except those specifying speed limits. The general movement of traffic was the sole guide for speed.

By the recording of the elapsed time at central points, and at the start and end of each delay, together with the cause of delay, resultant computations furnished such items as average over-all speed, running speed, amount and cause of delay, and various other factors.

The magnitude and intensity of the study is indicated by the fact that nearly 2,250 vehicle miles of actual test were run throughout the city.

#### *Average Over-All Speeds on Principal Radial Thoroughfares*

Of special interest in connection with the primary movement of traffic is the average over-all speed which is found on the principal radial thoroughfares. Accordingly there has been set forth graphically in Figure 87, (Speed Map) the values of average speed found on these thoroughfares during the afternoon peak of outbound travel between the hours of four and six P. M. For comparative purposes there has been set forth the prevailing speeds in selected areas in the Central Business District.

It will be observed from the scale legend that the method employed in presenting this data has been to show by width of band the speed in each direction of travel. The width of band varies inversely as the speed in miles per hour. This study brings out very clearly those locations on the principal thoroughfares where the speed of traffic is reduced by interference. For example: the normal speed of traffic, at locations where there is little or no interference by cross traffic movement, pedestrian movement, parking and other types of delays, will be found in such places as Portola Drive, over the crest of Twin Peaks, in the Bernal Cut, particularly the outbound movement, and again on Bayshore Boulevard through an area of relatively undeveloped territory, particularly between Third Street and Alemany Boulevard. At such points as these, traffic is found to move in excess of thirty miles per hour.

Contrawise where interference is high, such as the Central Business District, a large number of block lengths show speeds from five to ten, or even under five miles per hour.

The influence of outlying business districts on the free flow of vehicular traffic is further shown on such streets as Mission and Valencia. The influence of grades, jogs, and other physical limitations in the street system are also evident.

The general over-all performance of vehicular traffic on the principal thoroughfares shown in Figure 87, was summarized by the analysis of over 1,400 miles of tests. Results of this analysis is set forth in Appendix IV, and comparative figures are shown for peak hour travel, as well as for travel during the off peak periods. It should be borne in mind that these figures summarize not only travel time in the Central Business District, but also how time was spent in travel along outlying thoroughfares. It will be noted that during the peak hours the average over-all speed was about sixteen miles per hour, whereas during the off peak period of travel the average over-all speed was approximately 17.35 miles per hour .

The average duration of delay was found to vary between .17 and .20 minutes and from two to three delays were incurred each mile of travel.

Generally speaking, the average over all speed of movement, while not at all comparable with the speed capabilities of the modern motor vehicle, is dangerously high from the viewpoint of safe operation of such motor vehicles over streets which have frequent grade crossings of both pedestrians and vehicles.

This study of speeds is especially interesting in connection with a study of vehicular lane flows, described elsewhere and set forth in Chapter III. Generally speaking, it will be found that those locations showing high lane flow and high intersection density, seriously reduce the speed of traffic movement. This is as may be expected and definitely indicates those points which need correction.

#### *Time Zones of Traffic Flow*

The result of the average over all speeds which were set forth in the Speed Map, Figure 87, has been interpreted in terms of the time of travel from the Central Business District to other parts of the city.



PACIFIC OCEAN

GOLDEN GATE

PRESIDIO  
U.S. MILITARY RESERVE

## SAN FRANCISCO TRAFFIC SURVEY

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## SPEED MAP

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DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTORBY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

SCALE

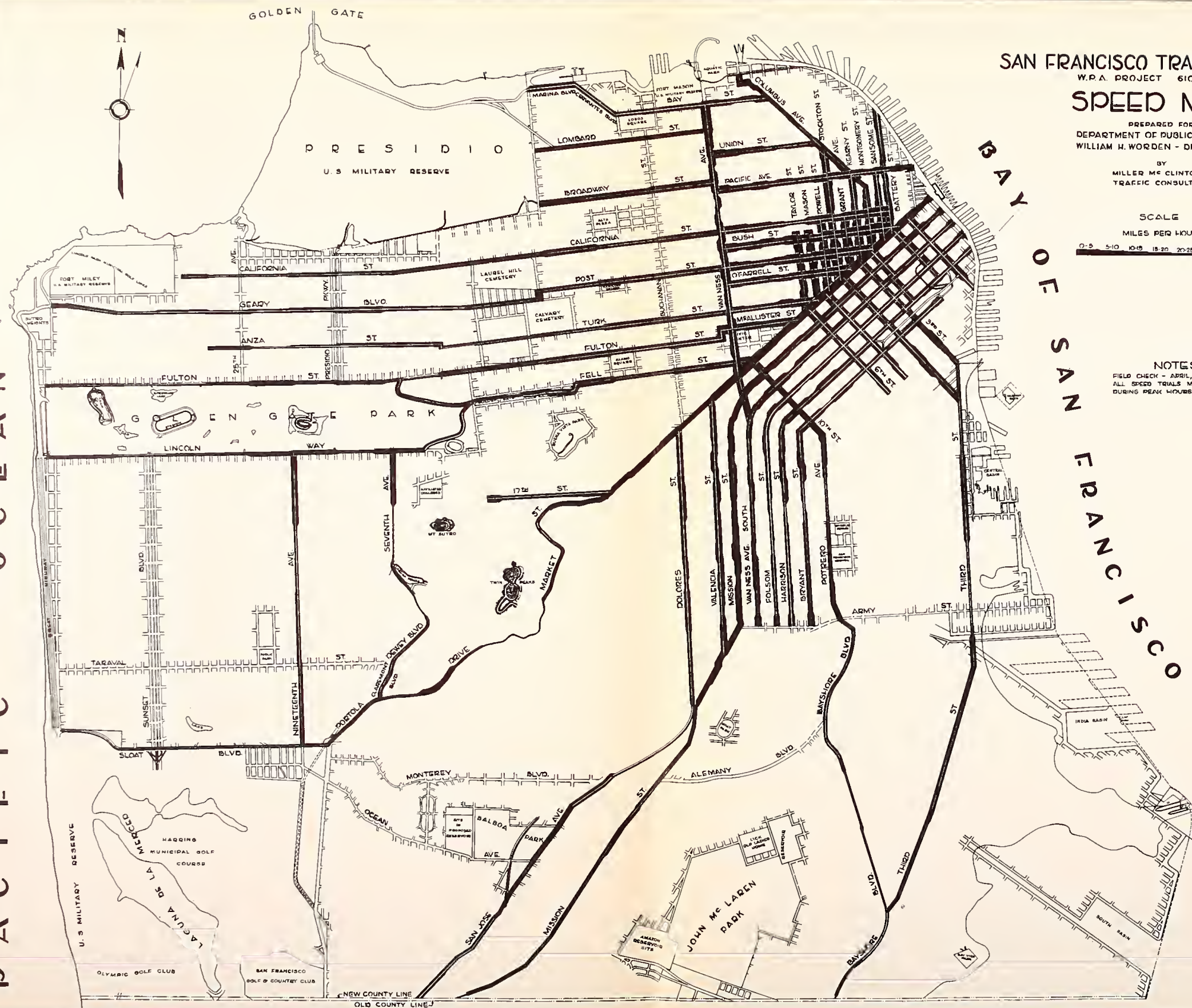
MILES PER HOUR

0-5 5-10 10-15 15-20 20-25 25-30 OVER 30

## NOTES

FIELD CHECK - APRIL, MAY 1937.  
ALL SPEED TRIALS MADE ON WEEKDAYS  
DURING PEAK HOURS - 4PM TO 6PM.SCALE OF FEET  
0 1000 2000

BAY OF SAN FRANCISCO





The facility of flow during each five minutes of travel time spent outward bound from the Central Business District during the evening rush hours can best be expressed by the total distance covered. Results of this study have been set forth in Figure 91, (Automobile Time Zones P. M. Rush.)

Using the intersection of Third, Kearny and Market as a point of reference, not only have points equi-distant from this intersection been shown by means of mile circles, but also points of equal time have been shown by five minute intervals.

It will be noted from this map that generally speaking, in the first five minute zone, travel from the intersection of Third and Market is generally sluggish to the North and West when compared with movement to the South and Southwest. (See Appendix IV.) The fastest routes were found to be by way of Third Street to the South and Folsom Street toward the Mission District, whereas, the most sluggish routes were found on Montgomery, Post and Sutter Streets. The advantages of the Stockton Street Tunnel to the North are clearly shown in comparing the relative distances covered at Kearny and Stockton Streets.

In the next five minute zone of travel, Turk Street and Third Street show real advantages. Columbus Avenue and Fulton Street were rather average and Market and Mission were unusually sluggish. The lack of a distinctly radial thoroughfare necessitating travel along the two sides of a triangle to reach the Marina district is evident. Thus, continued analysis of this study brings into sharp focus the limitations which are imposed along definite routes of travel and clearly indicates street lengths where the facility of travel is reduced.

A similar study of time zones has been made for the off peak hours of movement, that is, after the morning rush is over and before the evening rush begins, or more specifically, between the hours of ten A. M. and four P. M. In some instances it will be noted as high as three or four minutes additional are required for outbound movement in the evening rush when compared with the off peak normal movement of traffic. See Figure 93.

A further time zone analysis was made wherein all distances and travel times were referred to the junction of the First Street off-ramp and the San Francisco-Oakland Bay Bridge as a base point of reference. See Figure 95. The first five minute zone is of special interest in connection with this study. Because of the advantages furnished by the elevated

structure from First Street to Fifth Street where there is no interference of traffic, the pattern of travel is very much elongated along the line of this ramp. As a matter of fact it required only about one minute to travel from the reference point at the First Street ramp to the end of the Bridge, and the remainder of the time, about four minutes, is required to travel from Fifth to Seventeenth on Harrison Street.

Again, where traffic is forced to grade, particularly in a north bound direction crossing Market Street between First and Fifth Streets, progress is the slowest for any direction of travel from the Bridge separation structure.

For further detailed analysis, attention should be turned to Appendix IV, which sets forth in tabular form results of the time zone studies. It will be noted from this Appendix that the average over all speed in miles per hour from Third and Market as a reference point, during the peak hours, was 17.38. During the off-peak hours this value increased to 18.33 miles per hour. On the other hand, using the junction of the First Street ramp with the Bay Bridge as a reference point, during the peak hours of traffic it was found that an average over-all speed of 18.42 miles per hour was obtained. It should be especially noted in this connection that the average speed in miles per hour during the first five minutes of travel from the Bridge separation structure was found to be 17.76, while the average speed taken from Third and Kearny Streets during the first five minutes of travel was 11.76 miles per hour during the rush hour travel.

#### *Speed and Delay in the Central Business District*

Because of the unusually low speeds which are found in the Central Business District, particularly in that area of the Central Business District north of Market Street, special analysis has been made of just how time is spent in traffic in this area.

Results of this analysis are set forth graphically in Figure 97, and show that on streets running east and west in this area the average over-all speed is 7.6 miles per hour and 35.5 per cent of the time spent in traffic is actual delay when no movement whatever was accomplished.

Similarly on the streets running North and South more than 41 per cent of time spent in traffic is actually engaged in waiting for opportunity to progress. Thus it is seen that between three and one-half and four minutes out of every ten is spent in actual delay. More than three-



SAN FRANCISCO TRAFFIC SURVEY  
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AUTO-TIME ZONES-P. M. RUSH

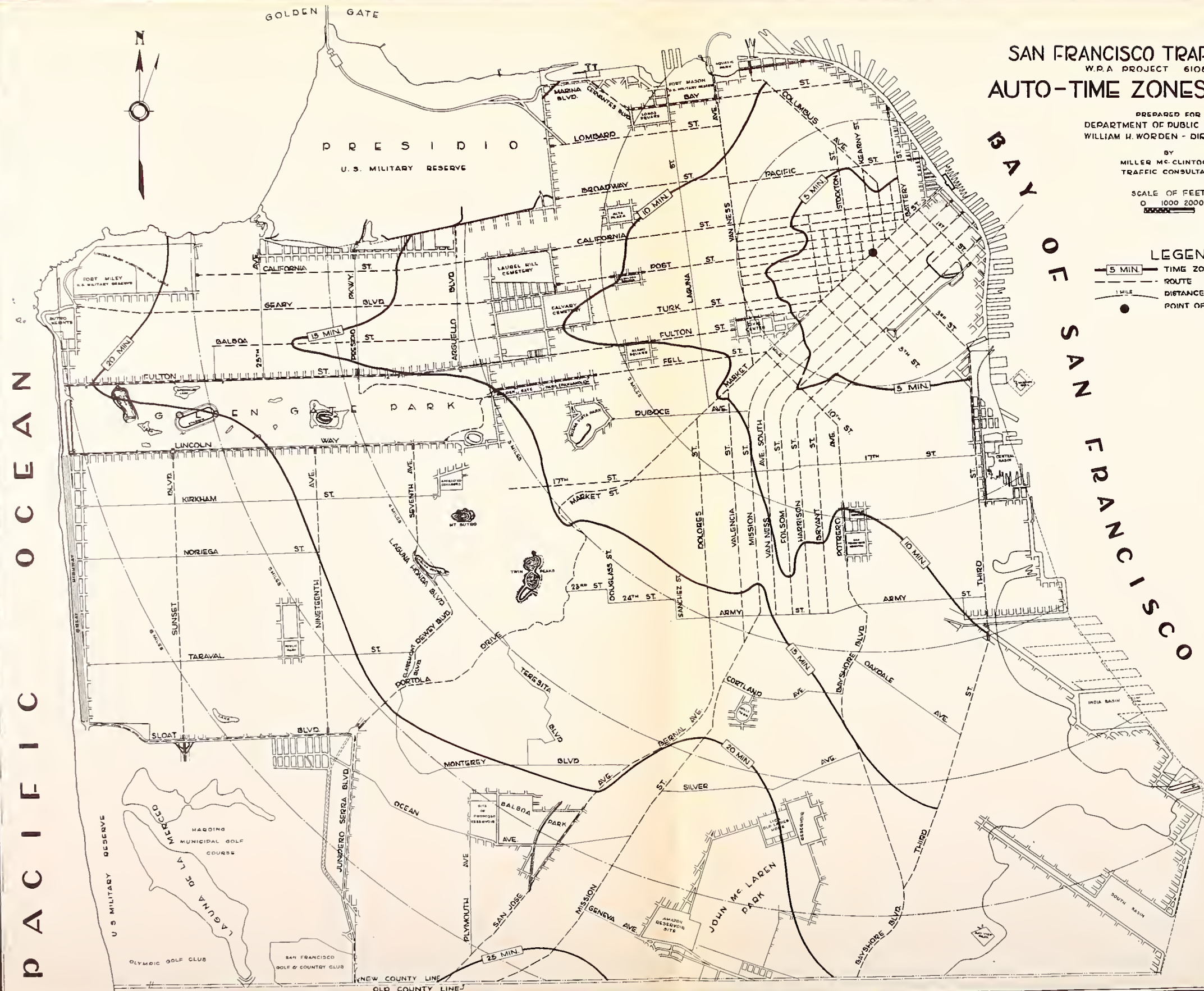
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WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MC-CLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

### LEGEND

5 MIN. TIME ZONE  
ROUTE  
1 MILE DISTANCE FROM 3RD & MARKET  
POINT OF ORIGIN







PACIFIC OCEAN

# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## AUTO-TIME ZONES-OFF PEAK

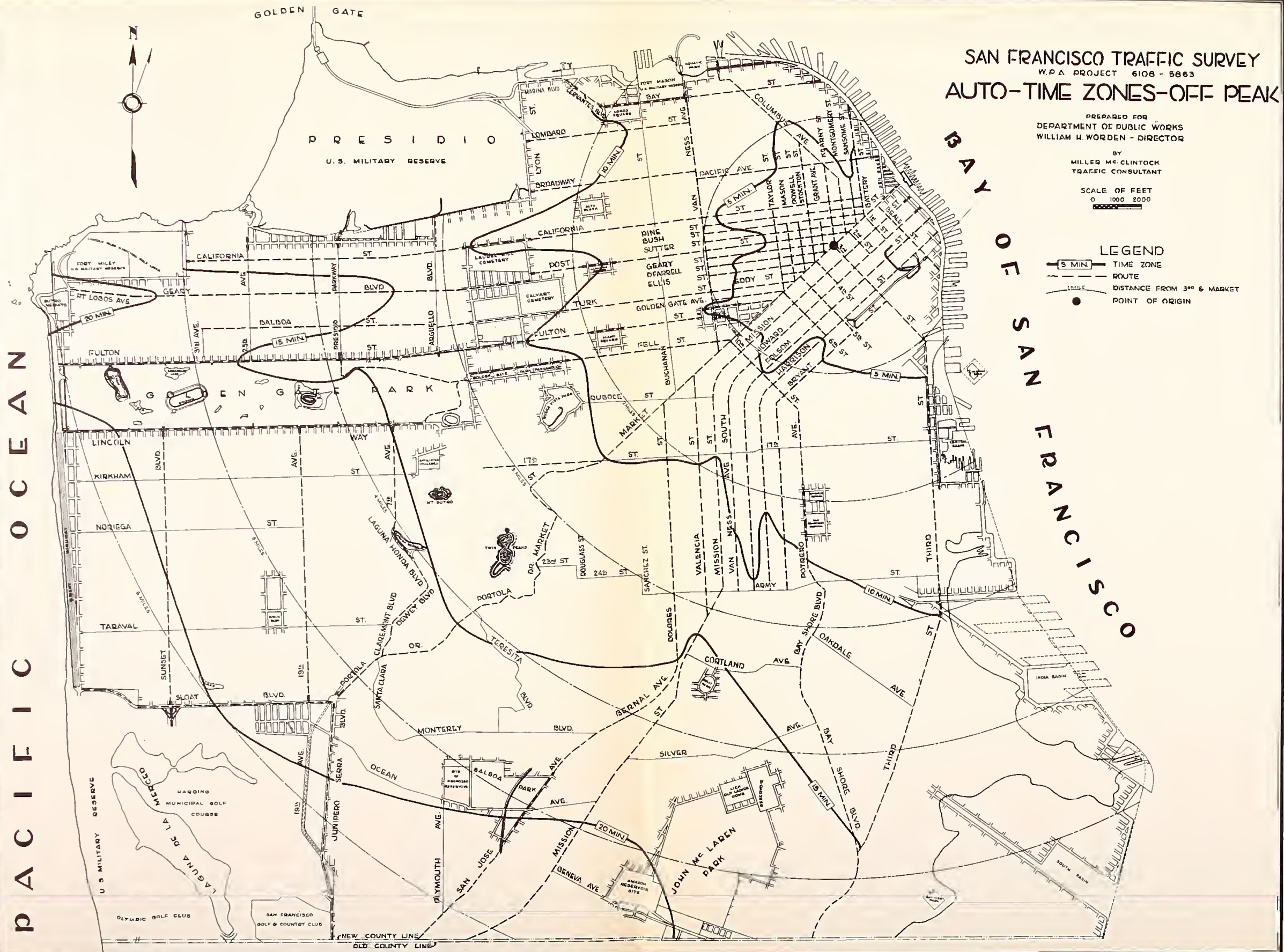
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MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

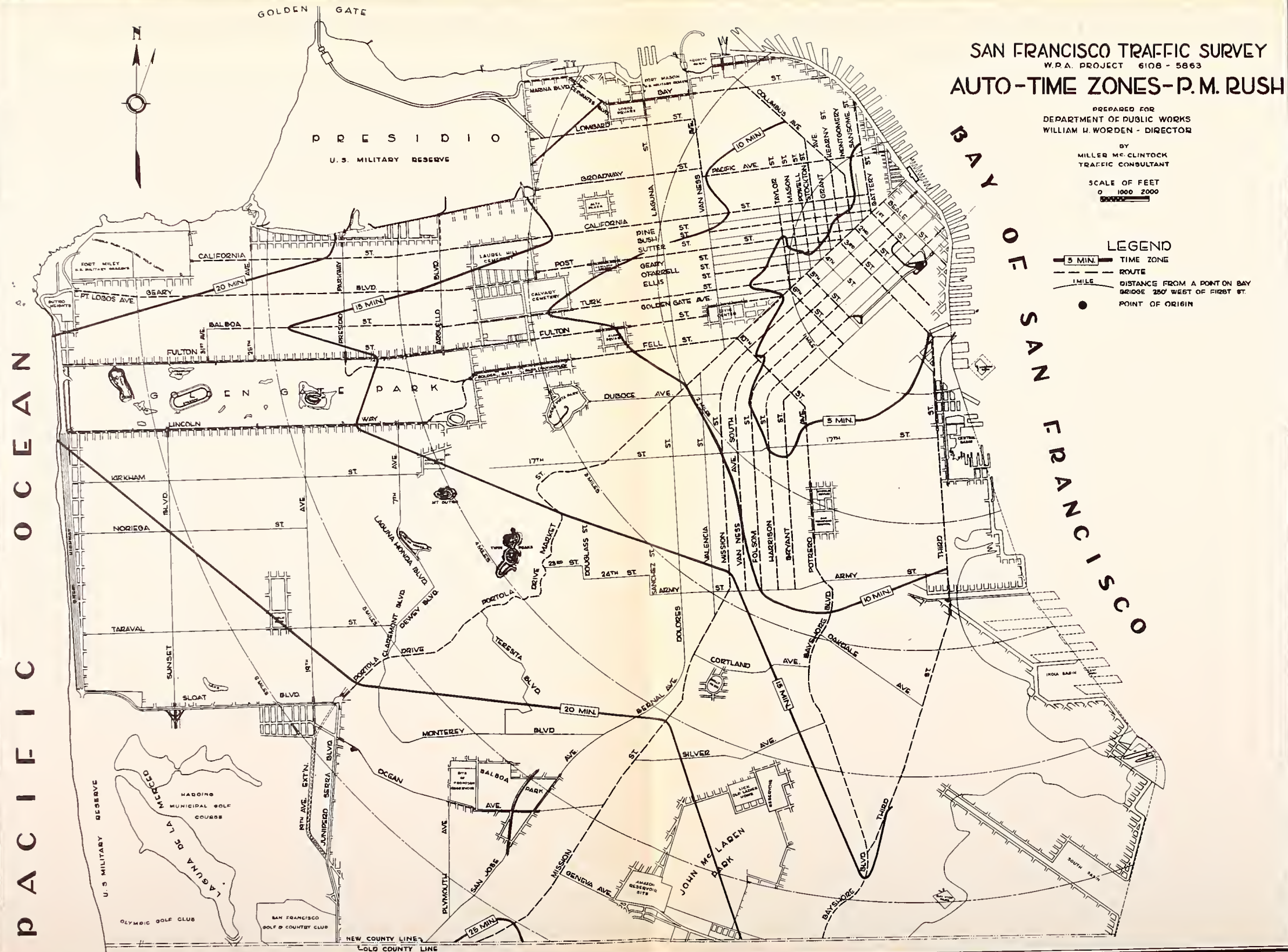
**LEGEND**

- 5 MIN. TIME ZONE
- ROUTE
- DISTANCE FROM 3RD & MARKET
- POINT OF ORIGIN













# SAN FRANCISCO TRAFFIC SURVEY

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## SPEED AND DELAY

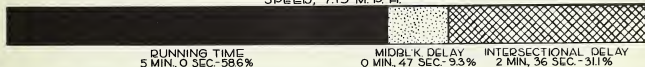
CENTRAL BUSINESS DISTRICT  
NORTH OF MARKET STREET

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

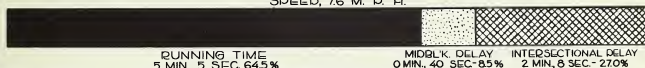
BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

### HOW TIME IS SPENT-PEAK HOUR

AVERAGE NORTH AND SOUTH MILE  
TIME, 8 MIN., 23 SEC.  
SPEED, 7.15 M. P. H.

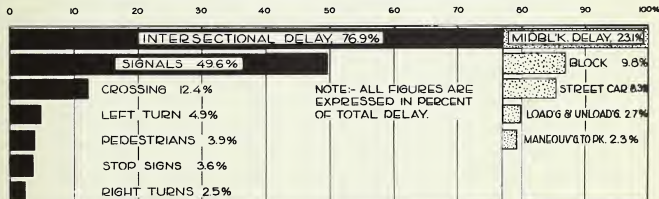


AVERAGE EAST & WEST MILE  
TIME, 7 MIN., 53 SEC.  
SPEED, 7.6 M. P. H.

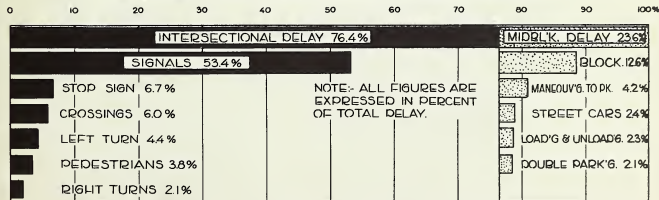


### DISTRIBUTION OF DELAYS-PEAK HOUR

#### NORTH-SOUTH TRAFFIC DELAYS IN CENTRAL BUSINESS DISTRICT



#### EAST-WEST TRAFFIC DELAYS IN CENTRAL BUSINESS DISTRICT



quarters of this delay is found to occur at intersections and the remainder is caused by mid-block interruptions.

Cross traffic and signals for cross traffic cause the great bulk of intersectional delays. General blockades for which there could be no definite cause determined, constitute the larger portion of mid-block delays.

Interference caused directly by double parking and parking maneuvers is found to be relatively low. It is apparent, however, to one familiar with traffic movement in the district, that traffic is throttled at the intersection, especially because of parked vehicles and in many instances only one-half the time now required to clear traffic at the intersections would be required if traffic would move in two lanes instead of one, the latter condition being enforced because of parked vehicles.

A further analysis of speeds and delays by particular streets in the Central Business District north of Market, is set forth in Figure 99. Among the slowest streets during the peak hour is the Bush Street west-

TABLE 98  
FREQUENCY AND DURATION OF DELAYS IN CENTRAL BUSINESS  
DISTRICT NORTH OF MARKET STREET, FROM FIELD  
OBSERVATIONS TAKEN DURING PEAK HOURS  
4:00 P. M. TO 6:00 P. M.

<i>Causes</i>	<i>North-South Streets</i>		<i>East-West Streets</i>		<i>Total All Movements</i>	
	<i>Number of Delays</i>	<i>Average Duration Minutes</i>	<i>Number of Delays</i>	<i>Average Duration Minutes</i>	<i>Number of Delays</i>	<i>Average Duration Minutes</i>
<b>Intersection Delays:</b>						
Traffic Crossing .....	49	.15	30	.16	79	0.15
Stop Sign .....	11	.19	15	.34	26	0.27
Signal .....	87	.33	105	.39	192	0.36
Pedestrian .....	15	.15	18	.16	33	0.16
Left Turn .....	19	.15	19	.17	38	0.16
Right Turn .....	12	.13	11	.15	23	0.14
Total .....	193	.24	198	.29	391	0.27
<b>Mid-Block Delays:</b>						
Double Parking .....	---	---	7	.22	7	0.22
Maneuvering Parking .....	8	.17	15	.21	23	0.19
Loading or Unloading .....	9	.18	10	.18	19	0.18
Street Car .....	10	.53	15	.12	25	0.29
Blockades .....	12	.45	25	.39	37	0.41
Total .....	39	.35	72	.25	111	0.29
GRAND TOTAL .....	232	.25*	270	.28*	502	0.27*

Total Test Mileage: 42.71 Miles.

Total Elapsed Time: 5.95 Hours.

\*Average.

# SAN FRANCISCO TRAFFIC SURVEY

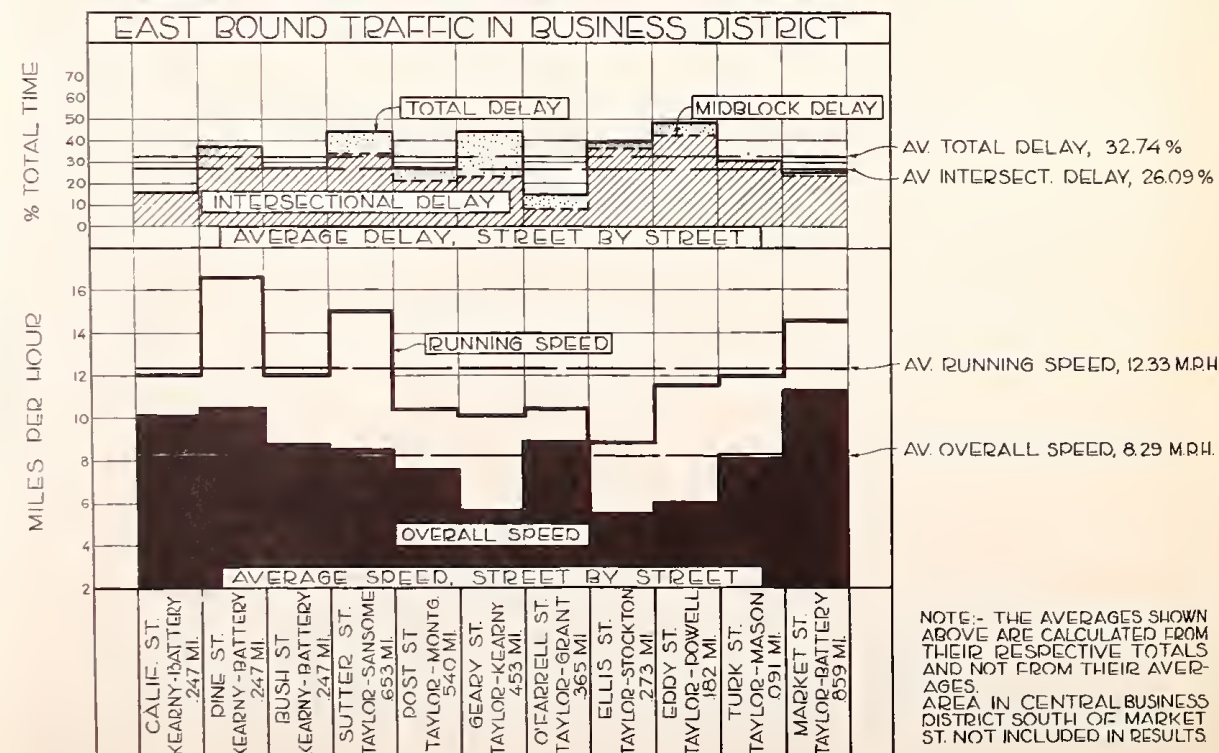
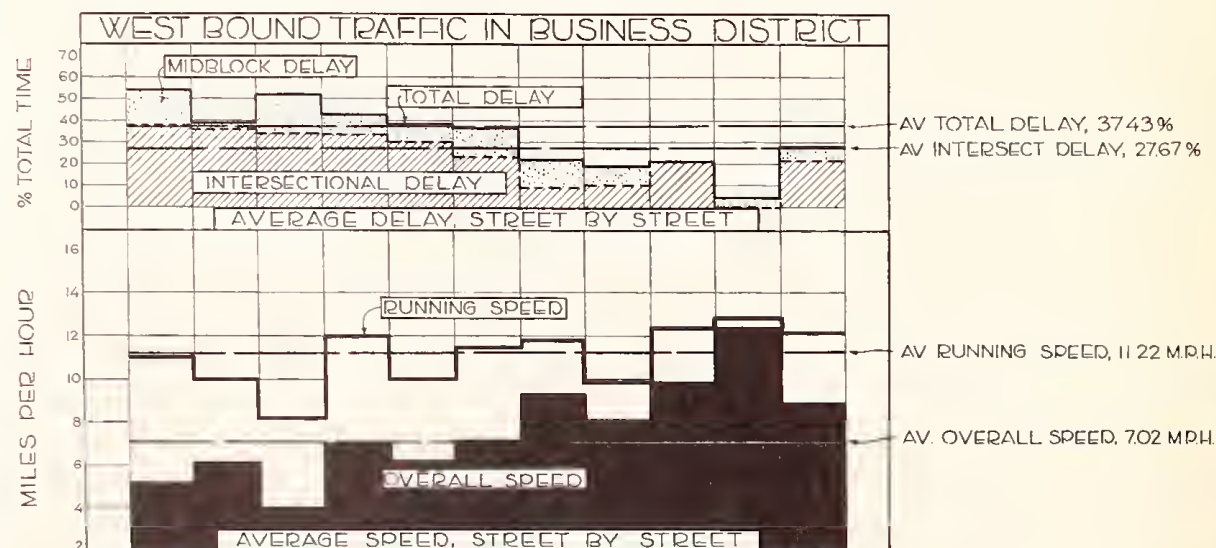
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## SPEED AND DELAY CENTRAL BUSINESS DISTRICT NORTH OF MARKET STREET

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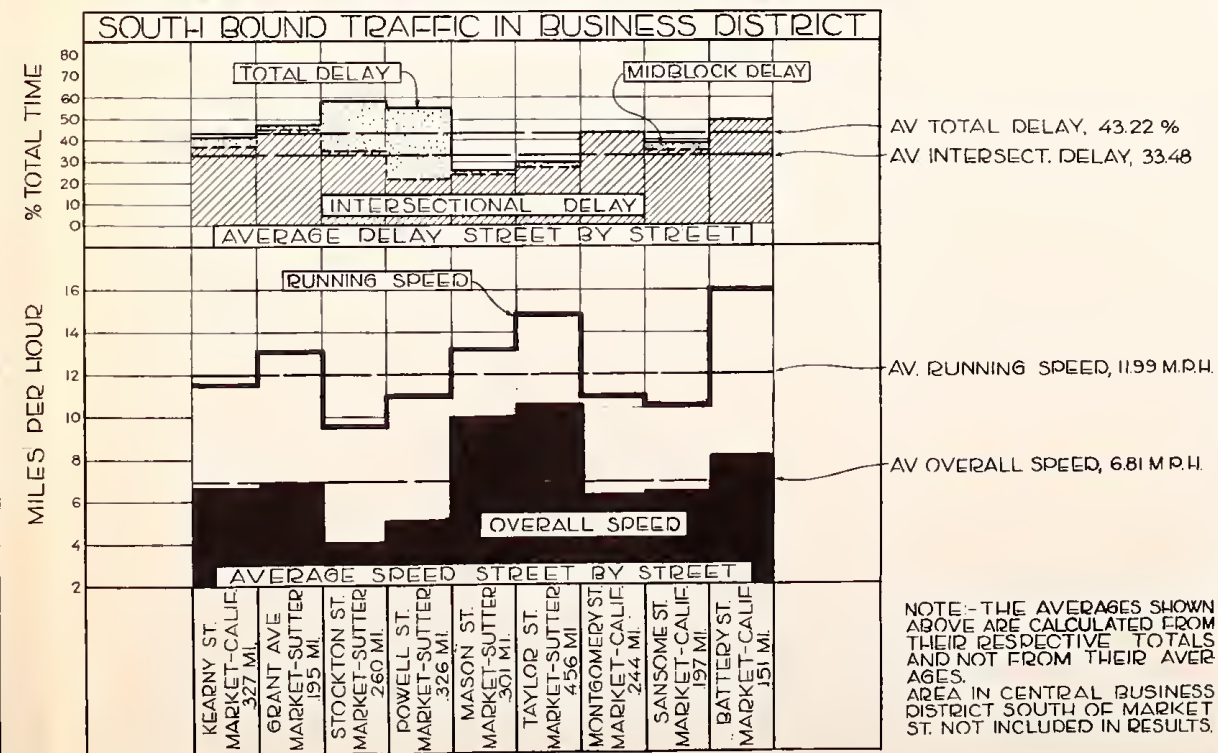
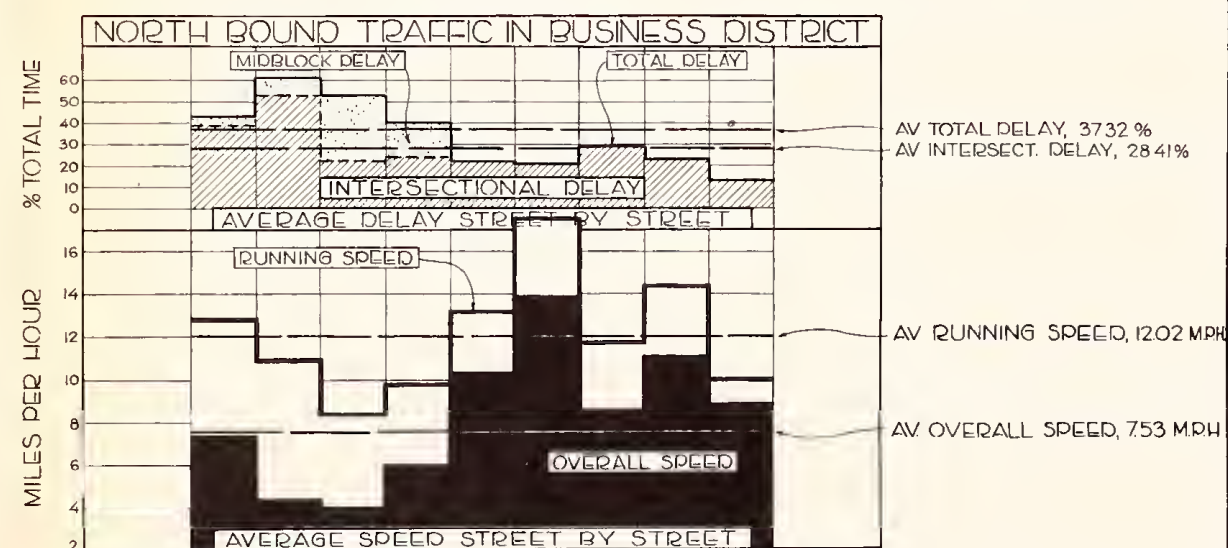
BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

PEAK HOUR



NOTE:- THE AVERAGES SHOWN ABOVE ARE CALCULATED FROM THEIR RESPECTIVE TOTALS AND NOT FROM THEIR AVERAGES.  
AREA IN CENTRAL BUSINESS DISTRICT SOUTH OF MARKET ST. NOT INCLUDED IN RESULTS.

PEAK HOUR



NOTE:- THE AVERAGES SHOWN ABOVE ARE CALCULATED FROM THEIR RESPECTIVE TOTALS AND NOT FROM THEIR AVERAGES.  
AREA IN CENTRAL BUSINESS DISTRICT SOUTH OF MARKET ST. NOT INCLUDED IN RESULTS.





bound and Stockton Street north and south-bound movement. On these streets an average of approximately four miles per hour prevails. The total time spent in delay on these particular streets runs as high as fifty per cent and more, so that at least half the time traffic is standing without accomplishing any purpose whatever. Comparative values for other street sections and directions of travel are found on this chart.

#### *Frequency and Duration of Delays*

Special analysis of the frequency and duration of delays in the Central Business District north of Market Street is set forth in Table 98. It will be observed from this Table that in this area, traffic is stopped from eleven to twelve times per mile of travel and approximately eighty-five times per hour. The average duration of each delay is found to be .27 minutes. The most frequent cause is found to be signals at intersections and with the exception of general blockades, the signals also give the highest duration of delays, that is .36 minutes each.

#### *Speed and Delay, 1926—1937 Compared*

It is not without interest to compare speeds prevailing in the downtown sections today with those speeds which were found over ten years ago.<sup>1</sup> A summary of this study is set forth in Table 102.

The present over-all speed on Central District streets is a little over ten miles per hour, whereas ten years ago the average over-all speed was about eight and one-half miles per hour. It is to be noted that mid-block delays have nearly doubled in the intervening years, and that intersection delays are nearly two and one-half as severe now as they were ten years ago, so that generally speaking, the delays found in traffic today are about twice as severe as were found in 1926. Paradoxically, there has been an increase in the average speed with the increase in the running speed, the latter having increased from 10.79 to 13.66 miles per hour. This improvement is entirely attributed to the improved operating characteristics of the modern motor vehicle. The intervening years have brought four-wheel brakes which make for less retardation losses, and the high compression motor with its accelerating abilities. Crest speeds are reached sooner and held longer than was possible ten years ago.

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<sup>1</sup>"Street Traffic Control Problem of San Francisco," 1927.

TABLE 102  
COMPARISON OF SPEEDS AND DELAYS OF STREETS AS OBSERVED IN  
OCTOBER 1926, AND APRIL 1937

Street Traversed	From	To	Year	Speed (Miles)		Inter- Section	Delays (Seconds)		Total Delay Time
				Average Over All	Running		Mid- Block		
MISSION	Embarcadero	Eleventh	1926	10.77	12.95	103.20	4.80	108.00	
			1937	13.60	16.82	162.80	28.00	190.80	
MARKET	Embarcadero	Eleventh	1926	9.39	11.70	135.50	8.80	144.30	
			1937	10.08	13.51	337.20	9.90	347.10	
GEARY	Market	Van Ness	1926	7.93	9.12	36.40	23.80	60.20	
			1937	8.43	12.15	204.40	55.80	260.20	
POST	Market	Van Ness	1926	7.12	9.62	150.60	22.60	173.20	
			1937	9.36	12.15	149.70	41.70	191.40	
SUTTER	Market	Van Ness	1926	8.26	9.62	29.00	44.80	73.80	
			1937	8.47	12.76	205.20	130.80	336.00	
BUSH	Market	Van Ness	1926	10.41	11.62	28.00	19.00	47.00	
			1937	11.42	13.70	109.60	19.00	128.60	
KEARNY	Pacific	Geary	1926	7.39	10.47	67.80	23.80	91.60	
			1937	11.07	14.56	98.10	1.40	99.50	
STOCKTON	Clay	Ellis	1926	7.30	11.65	94.00	13.60	107.60	
			1937	7.80	14.04	215.40	24.60	240.00	
TAYLOR	Pine	Golden Gate	1926	8.67	10.40	28.40	12.00	40.40	
			1937	10.99	13.27	63.00	3.00	66.00	
RECAPITULATION.....			1926	8.58	10.79	74.76	19.23	94.10	
			1937	10.13	13.66	171.71	34.91	206.62	

## CHAPTER V

### ORIGIN AND DESTINATION OF TRAFFIC MOVEMENTS

In the present analysis of traffic conditions in San Francisco it was determined that in addition to the analysis of traffic volumes and traffic speeds presented heretofore in this report, a third approach was required. While the volume studies and speed studies show the traffic load and the traffic speeds on selected routes at any particular point and also the general pattern of traffic distribution and the average over-all speeds throughout the areas, these studies do not show where traffic comes from nor where it goes. Accordingly, it was felt advisable to make studies of this very important phase of traffic movement. To obtain this information it was necessary to make detailed studies of the origin and destination of the various units which make up the streams of traffic.

#### *Method of Study*

Two different methods of study were employed in determining the origin and destination of vehicular traffic.

First: On the Golden Gate Bridge<sup>1</sup> and on the San Francisco-Oakland Bay Bridge<sup>1</sup>, the return postal card questionnaire method was employed. At the toll gates a return postal card questionnaire was handed to the driver of each vehicle with the request for his cooperation in supplying the Survey with information as to where he had started and where he would finish the particular trip he was making. Over a twenty-four hour period on April 14 the Bay Bridge investigation was carried out and for a similar period on July 9 the Golden Gate Bridge traffic was studied. Approximately 7,000 questionnaires were returned from the Bay Bridge study, amounting to nearly a thirty per cent sample of the traffic load for that day, and over 2,000 satisfactory questionnaires were returned from the Golden Gate Bridge, which was equivalent to a twenty per cent sample of the traffic using the bridge that day.

Second: To determine the origin and destination of traffic movement at important gateways within the city a crew of field investigators

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<sup>1</sup>The Survey is indebted to the officials of the Golden Gate Bridge and the San Francisco-Oakland Bay Bridge for their cooperation and assistance in conducting these studies.

determined the origin and destination of the movement of traffic through these selected gateways by questioning drivers. Eighty-seven different stations comprising thirty-one major gateways were studied between the hours of ten and twelve in the morning and two and six in the afternoon on typical week days during the month of May. Over 42,000 origins and destinations were checked by this method.

The individual origins and destinations as determined by either the return postal card or direct inquiry methods were sorted and analyzed by small districts graphically shown hereinafter.

### *Bay Bridge Findings*

The results of the Bay Bridge study are set forth in Figure 105. Each zone is enclosed by boundary lines and the per cent of traffic using the Bay Bridge, classified by ramp of entry or exit, is indicated. The study shows that traffic enters or leaves the bridge in about equal proportions by way of the Fifth Street ramp and the First Street connections. The great bulk of this traffic has its origin or destination in the commercial areas of the city. The Central Business District exerts a tremendous force in generating the traffic which uses this bridge. On the other hand, it is clearly shown that the traffic which uses this bridge has, in varying degrees, been generated from every section of the city and a relatively small amount is destined for points in San Mateo County, Santa Clara County, or beyond.

The conclusion is inescapable that while the Bay Bridge traffic is primarily seeking the commercial areas in San Francisco there are certain elements of the traffic stream which penetrate to points throughout the city and beyond.

### *Golden Gate Bridge Findings*

The results of the study of traffic on the Golden Gate Bridge are set forth in Figure 107. The distribution of traffic from the Golden Gate Bridge does not show as strong a tendency as does the Bay Bridge toward concentration in commercial areas but rather shows a broader city-wide distribution. It is found that a larger percentage of the Golden Gate Bridge traffic travels to points beyond the city limits than does that of the Bay Bridge. The importance of the Central District as a generator of traffic for the Golden Gate Bridge is evident. Approximately one car out of every ten has its origin or destination within the shopping district,



PACIFIC OCEAN

GOLDEN GATE

26 - MARIN CO.

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## BAY BRIDGE - ORIGIN-DESTINATION

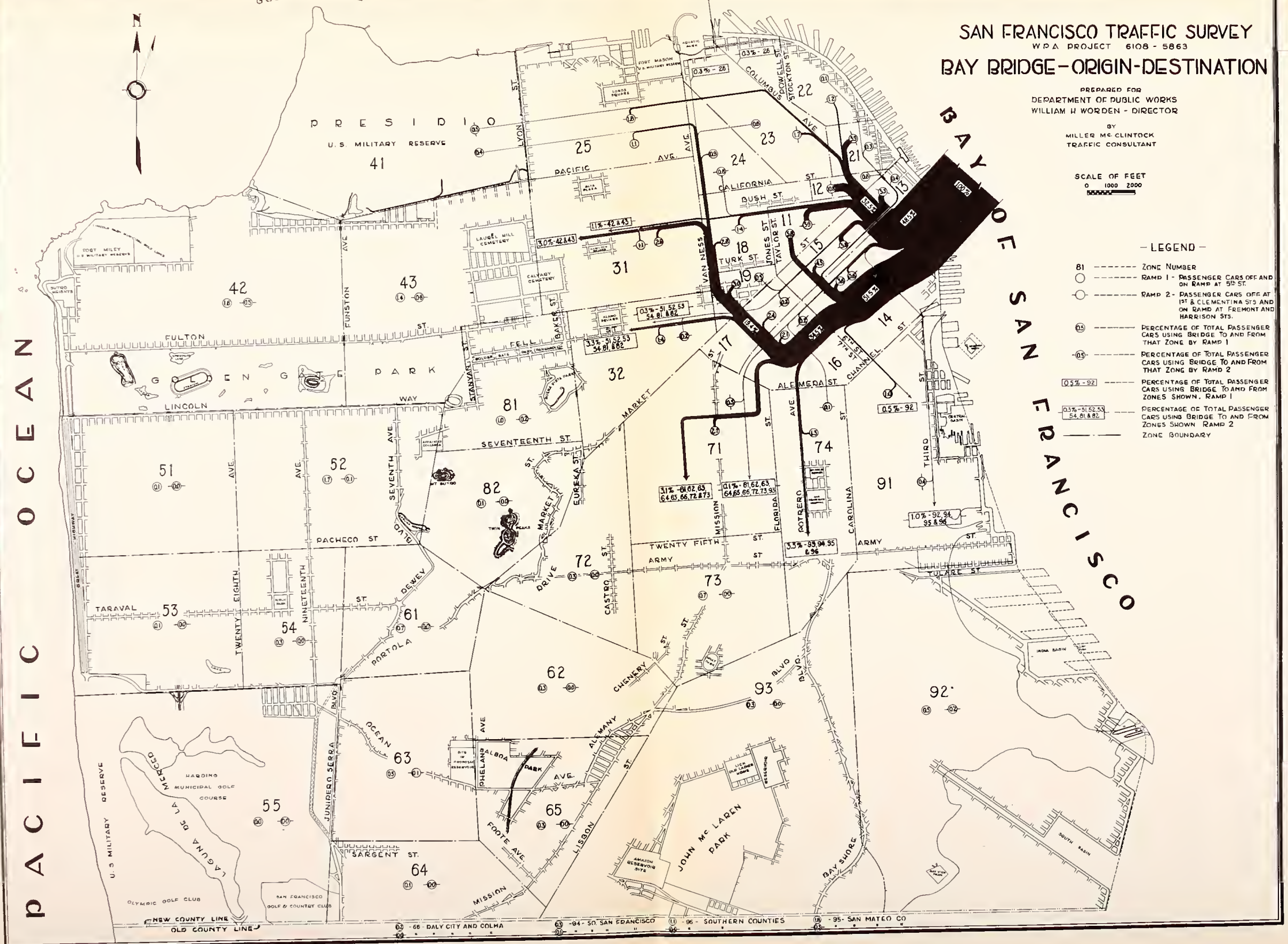
PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H WORDEN - DIRECTOR

BY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

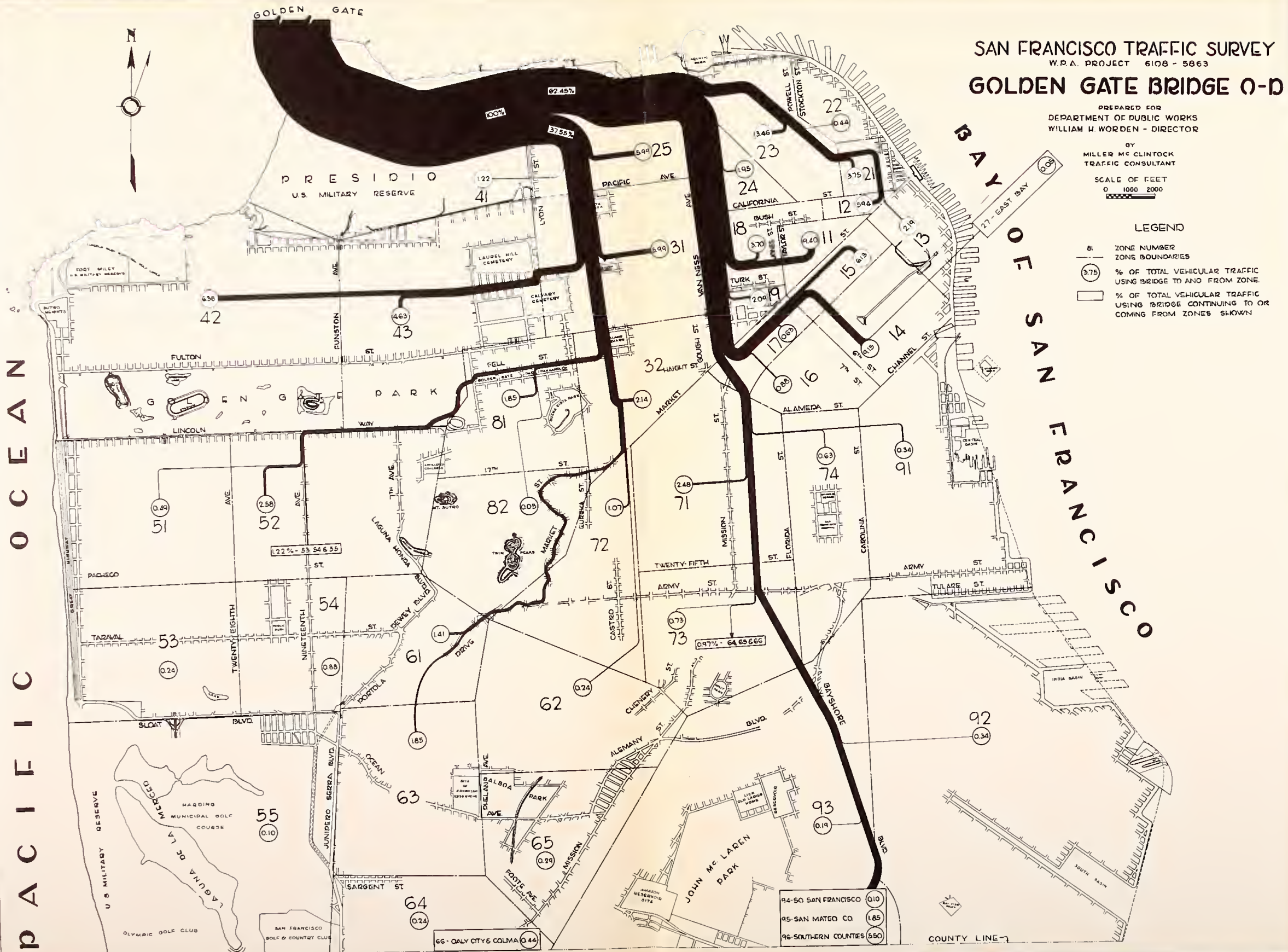
### LEGEND

- 81 - - - - - ZONE NUMBER
- - - - - - RAMP 1 - PASSENGER CARS OFF AND ON RAMP AT 50 ST.
- - - - - - RAMP 2 - PASSENGER CARS OFF AT 1ST & CLEMENTINA STS AND ON RAMP AT FREMONT AND HARRISON STS.
- ②⑤ - - - - - PERCENTAGE OF TOTAL PASSENGER CARS USING BRIDGE TO AND FROM THAT ZONE BY RAMP 1
- ①⑤ - - - - - PERCENTAGE OF TOTAL PASSENGER CARS USING BRIDGE TO AND FROM THAT ZONE BY RAMP 2
- 0.5% - 92 - - - - - PERCENTAGE OF TOTAL PASSENGER CARS USING BRIDGE TO AND FROM ZONES SHOWN, RAMP 1
- 0.5% - 51, 52, 53, 54, 81 & 82 - - - - - PERCENTAGE OF TOTAL PASSENGER CARS USING BRIDGE TO AND FROM ZONES SHOWN, RAMP 2
- - - - - ZONE BOUNDARY











indicated in the Figure as District 11. This is quite comparable with nearly twelve per cent of the Bay Bridge traffic seeking this same area. If the large area inclosed by California Street, Van Ness Avenue, Twelfth Street, Alameda Street, Channel Street and the Embarcadero is considered as a single zone of origin and destination, it will be observed from the Bay Bridge study that fifty-four per cent of the Bay Bridge load arises in or is destined for this area, whereas only forty per cent of the Golden Gate Bridge load is generated within this district.

### *Intra-City Findings*

The results of the origin and destination studies at the more important gateways within the city and particularly those through which the heaviest volumes of traffic are found to pass, are set forth in Figures 111 to 133, inclusive. A detailed description of each gateway will be found in Appendix V together with a tabular summary of the results. The significance of each of these Figures can be gained only after careful study. The importance of the central commercial area—Zone One—is startling. Thus, through Gateway A, more than seventy per cent of the traffic coming from or going to the north on Third Street and Sixth Street between Berry and Channel was destined for Zone One. An additional 8.6 per cent, which reflect round-trip samples as originating and destined for Zone One, pass through this gateway. Over twenty per cent of the traffic using Gateway A is destined for or comes from points beyond the Central Zone One and nearly thirteen per cent of the flow at Gateway A comes from San Mateo County, Santa Clara County or points farther south.

Similarly in Gateway B over seventeen per cent comes from San Mateo County or points south. Seventy-two per cent of the load is generated by the Central Zone One and nearly fifteen per cent of the traffic passing through Gateway B has its origin or is destined for points beyond the Central Zone One. Similar study of each of the gateways shows the degree to which traffic arises from and is destined to all parts of the city.

Attention is particularly called to the study of Gateway L which includes traffic using Pacific Avenue and Broadway between Van Ness Avenue and Polk Street. The importance of this route as a connector between the Marina and the Fillmore District on the west and the North Beach and Central District on the east is clearly shown. The importance

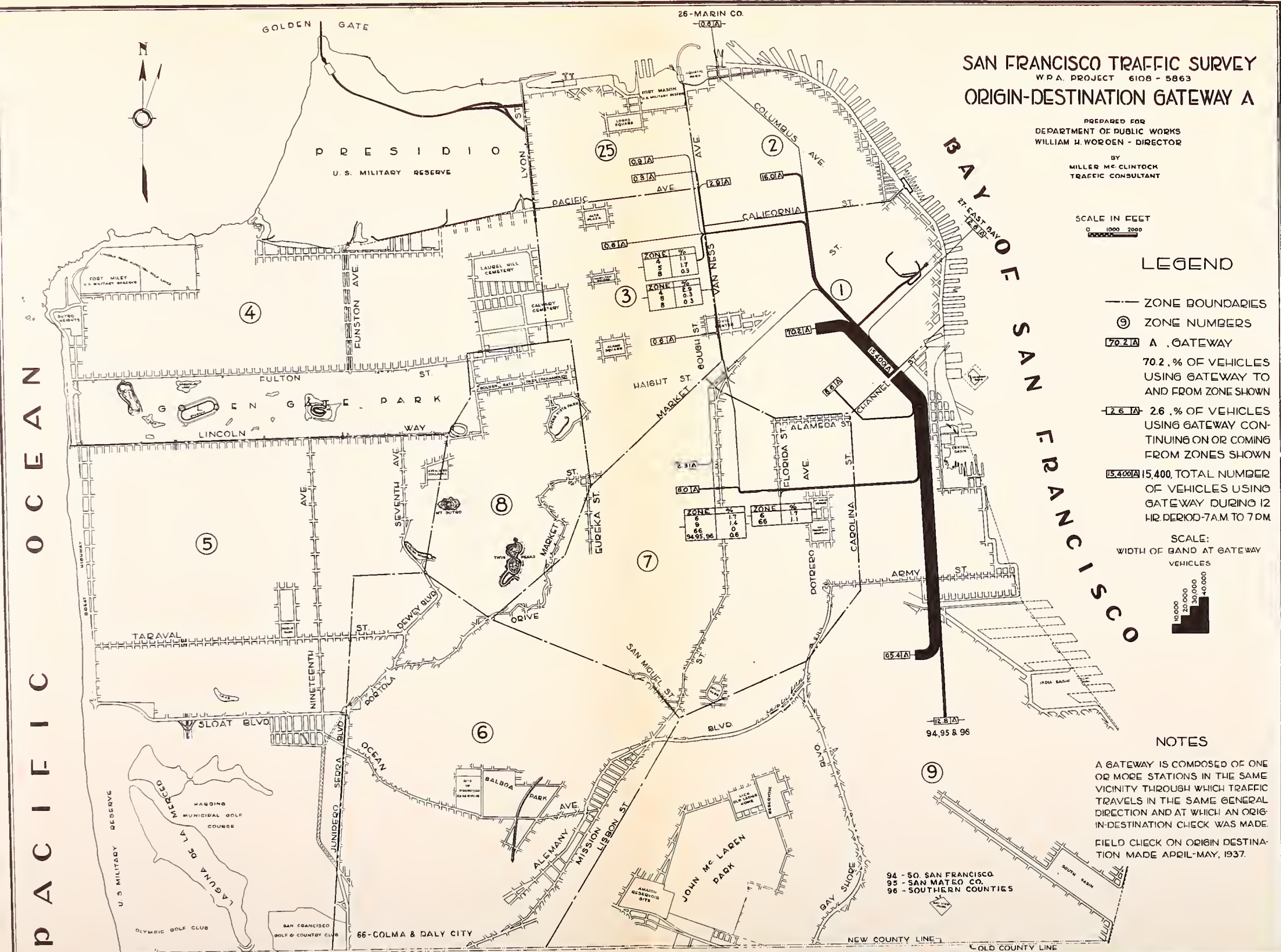


of this gateway to the North Beach district and the Fillmore district is evident. The predominant value of this route as a connector between these two areas is clearly shown by the volume of traffic which it serves in each of these districts. Likewise the importance of Gateway J as a connector between the Fillmore, Richmond, Sunset districts on one side, and the Mission and Central districts on the other, is significant.

A complete statistical summary of all gateways which were studied throughout the city, even at points as remote as Skyline Boulevard, and at Sloat Boulevard, listed in Appendix V, show that of the 42,211 origins or destinations which were secured from drivers, approximately one vehicle out of every four was destined for the Central Business area. The importance of the North Beach area, the Richmond district and the Mission district is also indicated in that each of these zones generated between ten and twelve per cent of the traffic.

### *Conclusions*

Thus, it is concluded from a study of all gateways surrounding the Central District that traffic which uses these gateways at the present time arises from all sections of the city on the one side and is in the main destined for or coming from the central area on the other. The need for a system of well defined radial routes from the central area is emphasized by study of the origins and destination of traffic movements. Moreover it is found that certain substantial volumes of traffic which are now forced through the central congested area are seeking destinations beyond this area. Routes which will provide free movement to such destinations would be beneficial to through traffic and would furthermore be beneficial in relieving congestion of traffic within the central district.







# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## ORIGIN-DESTINATION GATEWAY B

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET  
0 1000 2000

### LEGEND

— ZONE BOUNDARIES

⑨ ZONE NUMBERS

72.5 B GATEWAY

72.5 % OF VEHICLES  
USING GATEWAY TO  
AND FROM ZONE SHOWN

17.4 B GATEWAY  
17.4 % OF VEHICLES  
USING GATEWAY CON-  
TINUING ON OR COMING  
FROM ZONES SHOWN

26,000 B GATEWAY  
26,000 TOTAL NUMBER  
OF VEHICLES USING  
GATEWAY DURING 12  
HR. PERIOD-7 A.M. TO 7 P.M.

SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES



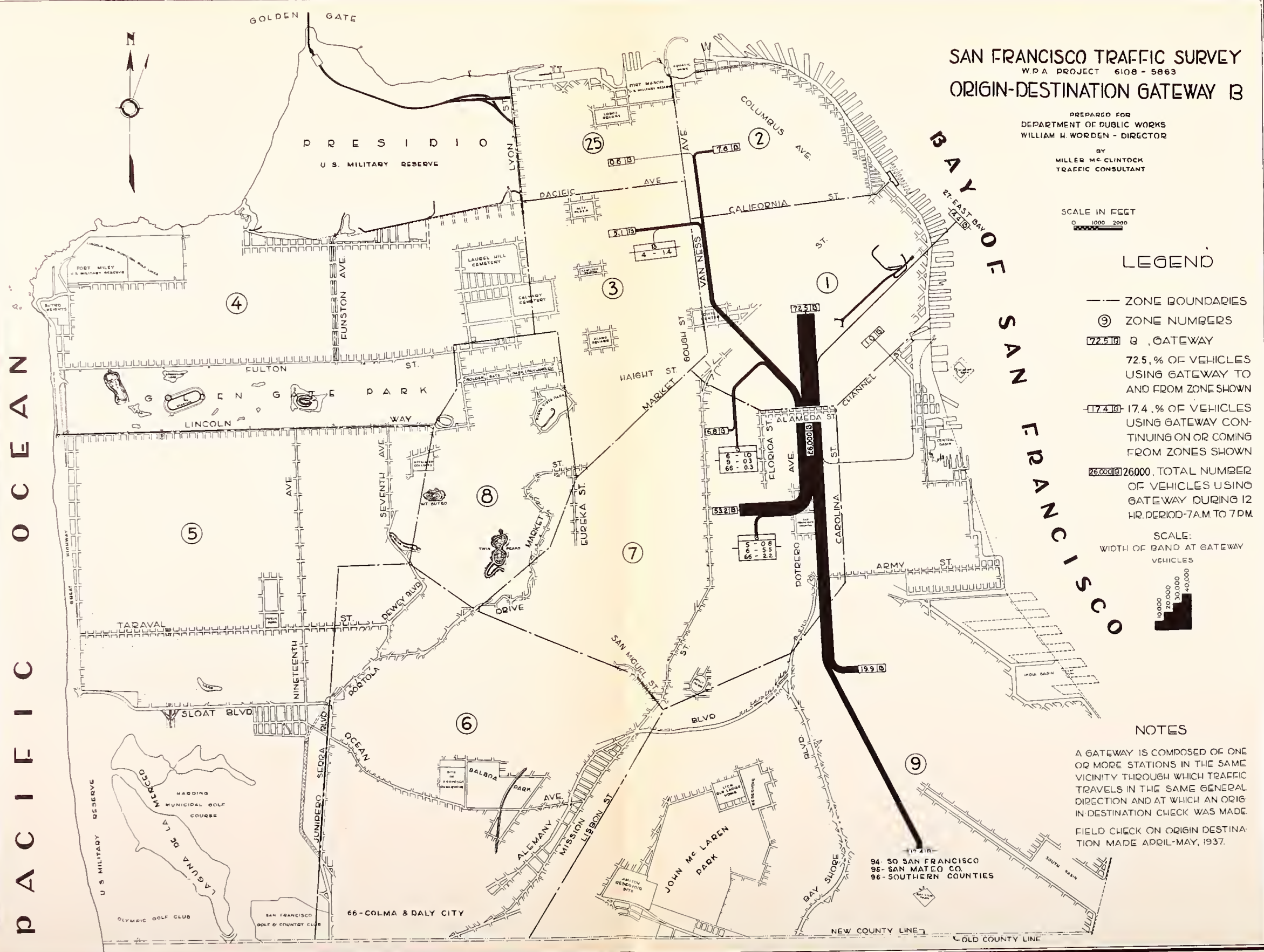
### NOTES

A GATEWAY IS COMPOSED OF ONE OR MORE STATIONS IN THE SAME VICINITY THROUGH WHICH TRAFFIC TRAVELS IN THE SAME GENERAL DIRECTION AND AT WHICH AN ORIGIN-DESTINATION CHECK WAS MADE.

FIELD CHECK ON ORIGIN-DESTINATION MADE APRIL-MAY, 1937.

94 - SO. SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES

PACIFIC OCEAN









PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H WORDEN - DIRECTOR

BY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET  
0 1000 2000

## LEGEND

- ZONE BOUNDARIES
- ⑨ ZONE NUMBERS
- 76.1 C, GATEWAY
- 76.1, % OF VEHICLES  
USING GATEWAY TO  
AND FROM ZONE SHOWN
- 1.9 1.9, % OF VEHICLES  
USING GATEWAY CON-  
TINUING ON OR COMING  
FROM ZONES SHOWN
- 49300 49300, TOTAL NUMBER  
OF VEHICLES USING  
GATEWAY DURING 12  
HR PERIOD-7 A.M. TO 7 P.M.

SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES

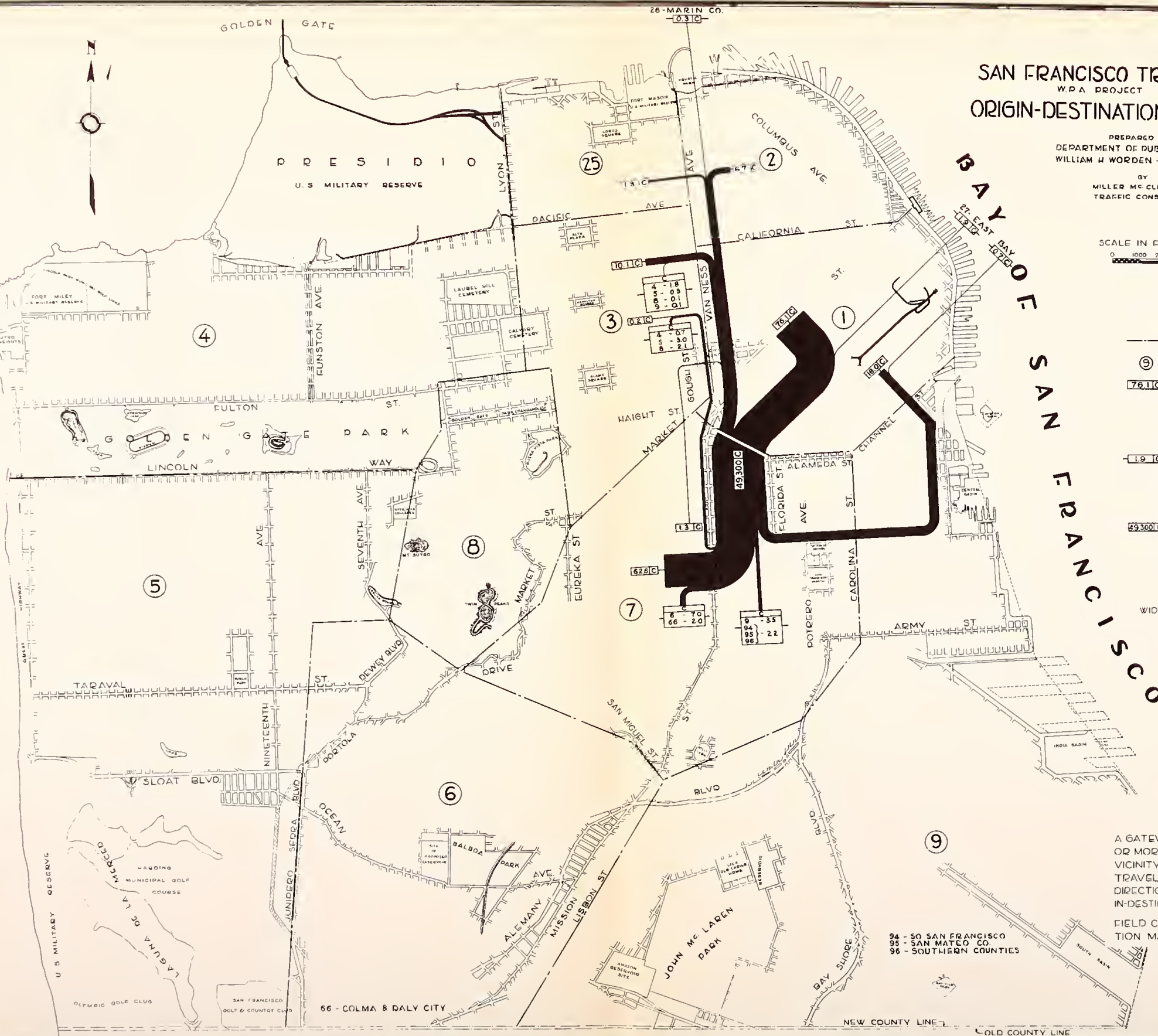


## NOTES

A GATEWAY IS COMPOSED OF ONE OR MORE STATIONS IN THE SAME VICINITY THROUGH WHICH TRAFFIC TRAVELS IN THE SAME GENERAL DIRECTION AND AT WHICH AN ORIGIN-DESTINATION CHECK WAS MADE.

FIELD CHECK ON ORIGIN DESTINATION MADE APRIL-MAY, 1937.

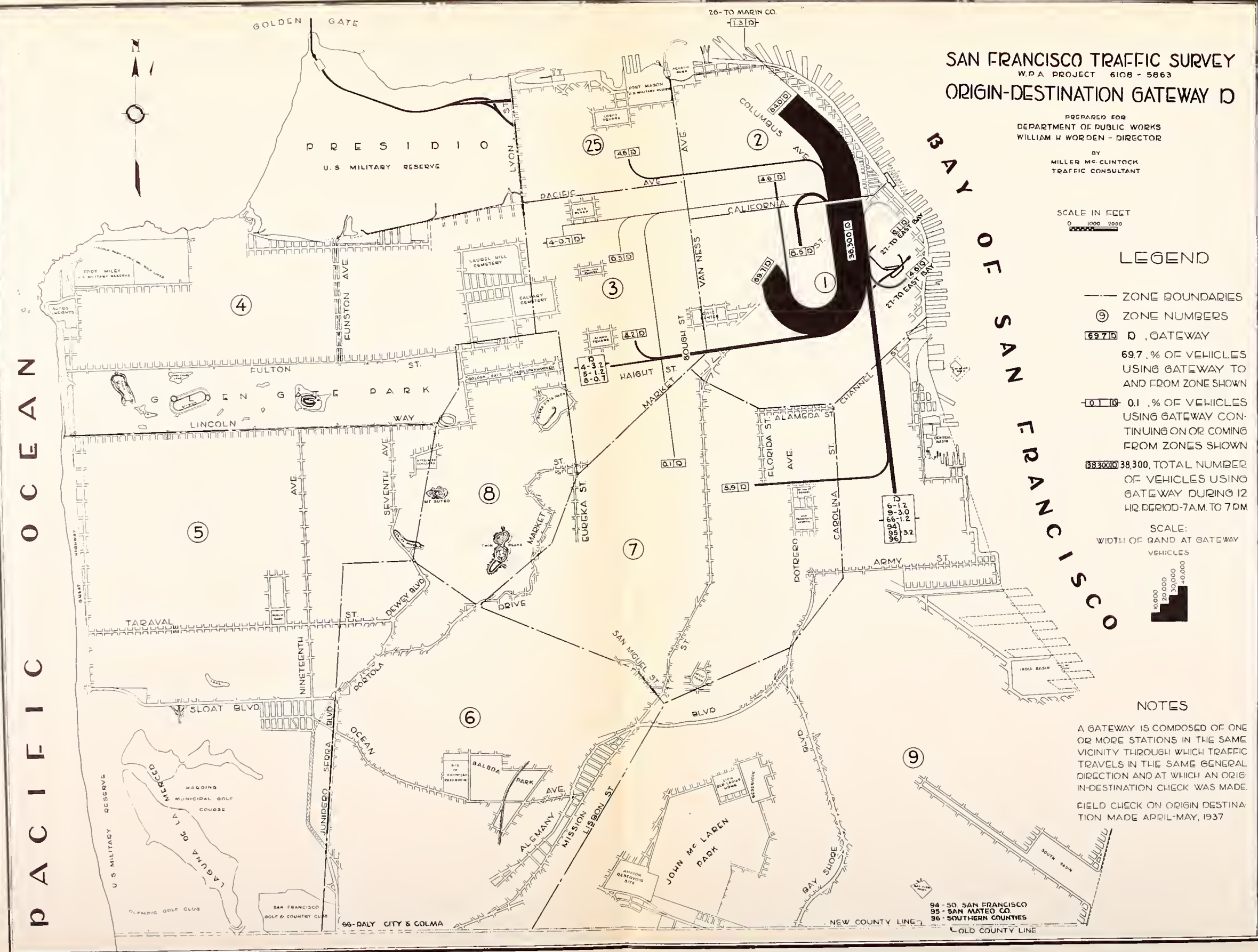
94 - SO SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES







PACIFIC OCEAN



# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## ORIGIN-DESTINATION GATEWAY D

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET  
0 1000 2000

### LEGEND

- ZONE BOUNDARIES
- ⑨ ZONE NUMBERS
- 697 D** D, GATEWAY  
69.7 % OF VEHICLES USING GATEWAY TO AND FROM ZONE SHOWN
- 0.1 D** 0.1 % OF VEHICLES USING GATEWAY CONTINUING ON OR COMING FROM ZONES SHOWN
- 38300 D** 38,300, TOTAL NUMBER OF VEHICLES USING GATEWAY DURING 12 HR. PERIOD-7 A.M. TO 7 P.M.

SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES

10,000  
20,000  
30,000  
40,000

### NOTES

A GATEWAY IS COMPOSED OF ONE OR MORE STATIONS IN THE SAME VICINITY THROUGH WHICH TRAFFIC TRAVELS IN THE SAME GENERAL DIRECTION AND AT WHICH AN ORIGIN-DESTINATION CHECK WAS MADE.

FIELD CHECK ON ORIGIN DESTINATION MADE APRIL-MAY, 1937

94 - SO. SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES

NEW COUNTY LINE  
OLD COUNTY LINE





# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## ORIGIN-DESTINATION GATEWAY E

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET  
0 1000 2000

### LEGEND

— ZONE BOUNDARIES

⑨ ZONE NUMBERS

24.7 E GATEWAY

24.7, % OF VEHICLES  
USING GATEWAY TO  
AND FROM ZONE SHOWN

0.6 E 0.6, % OF VEHICLES  
USING GATEWAY CON-  
TINUING ON OR COMING  
FROM ZONES SHOWN

23,200 23,200, TOTAL NUMBER  
OF VEHICLES USING  
GATEWAY DURING 12  
HR. PERIOD 7 A.M. TO 7 P.M.

SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES

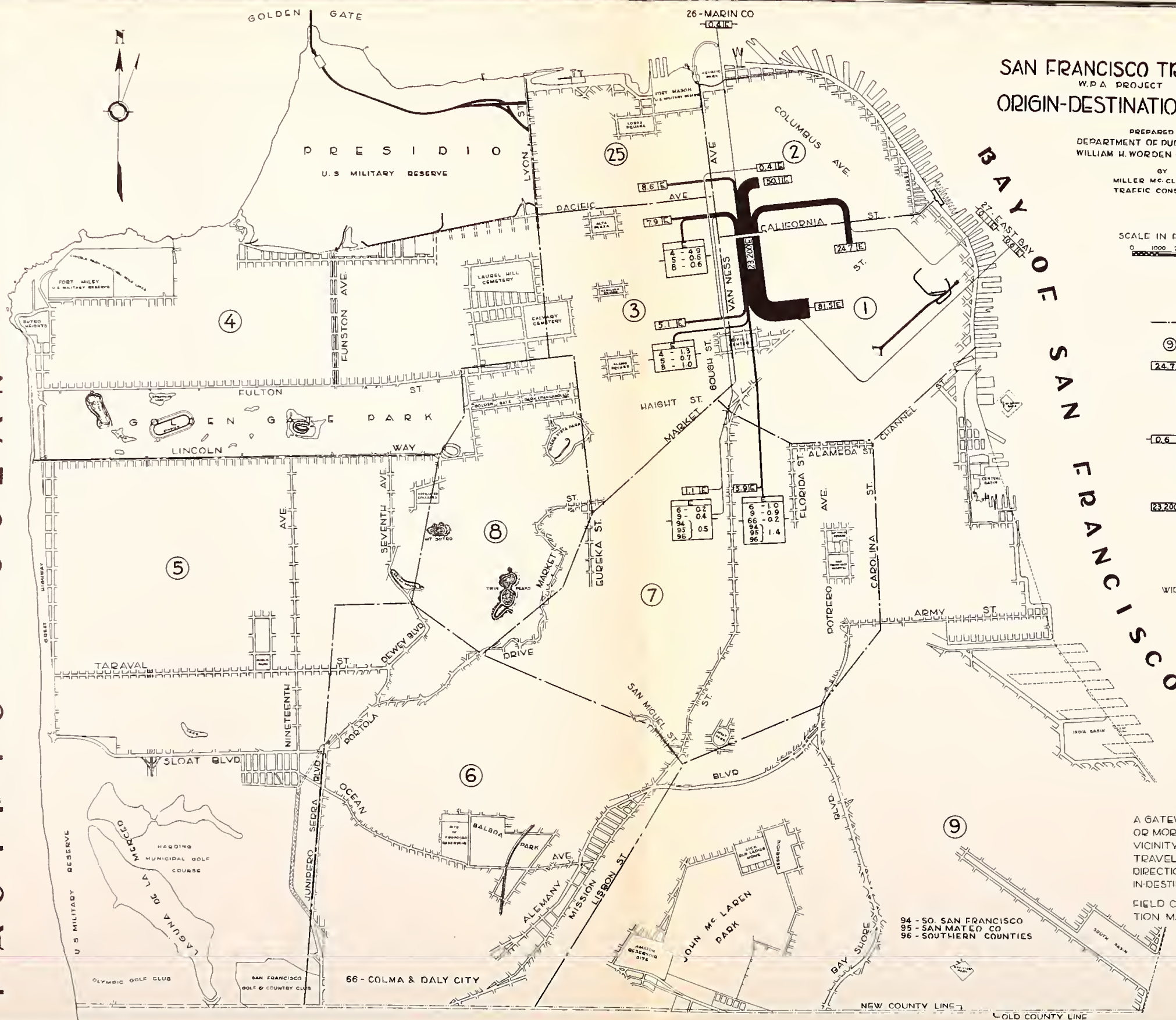


### NOTES

A GATEWAY IS COMPOSED OF ONE  
OR MORE STATIONS IN THE SAME  
VICINITY THROUGH WHICH TRAFFIC  
TRAVELS IN THE SAME GENERAL  
DIRECTION AND AT WHICH AN ORIGIN-  
DESTINATION CHECK WAS MADE.

FIELD CHECK ON ORIGIN DESTINATION  
MADE APRIL-MAY, 1937.

94 - SO. SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES













# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## ORIGIN-DESTINATION GATEWAY 6

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET  
0 1000 2000

### LEGEND

— ZONE BOUNDARIES

⑨ ZONE NUMBERS

**65.9** 6, GATEWAY

65.9, % OF VEHICLES  
USING GATEWAY TO  
AND FROM ZONE SHOWN

**0.6** 0.6, % OF VEHICLES  
USING GATEWAY CONTINUING ON OR COMING  
FROM ZONES SHOWN

**30,300** 30,300, TOTAL NUMBER  
OF VEHICLES USING  
GATEWAY DURING 12  
HR. PERIOD-7 AM TO 7 PM

SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES

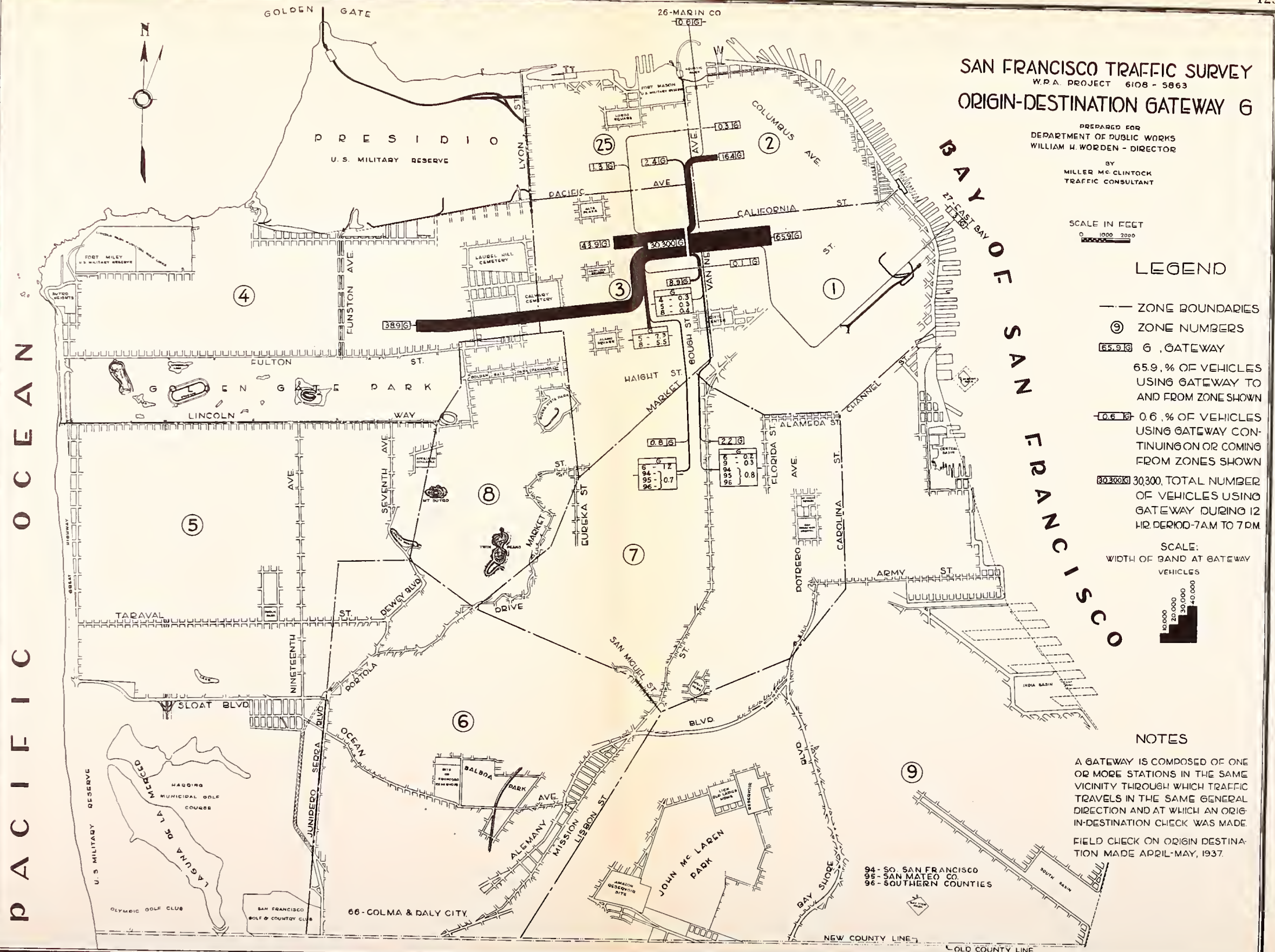


### NOTES

A GATEWAY IS COMPOSED OF ONE OR MORE STATIONS IN THE SAME VICINITY THROUGH WHICH TRAFFIC TRAVELS IN THE SAME GENERAL DIRECTION AND AT WHICH AN ORIGIN-DESTINATION CHECK WAS MADE.

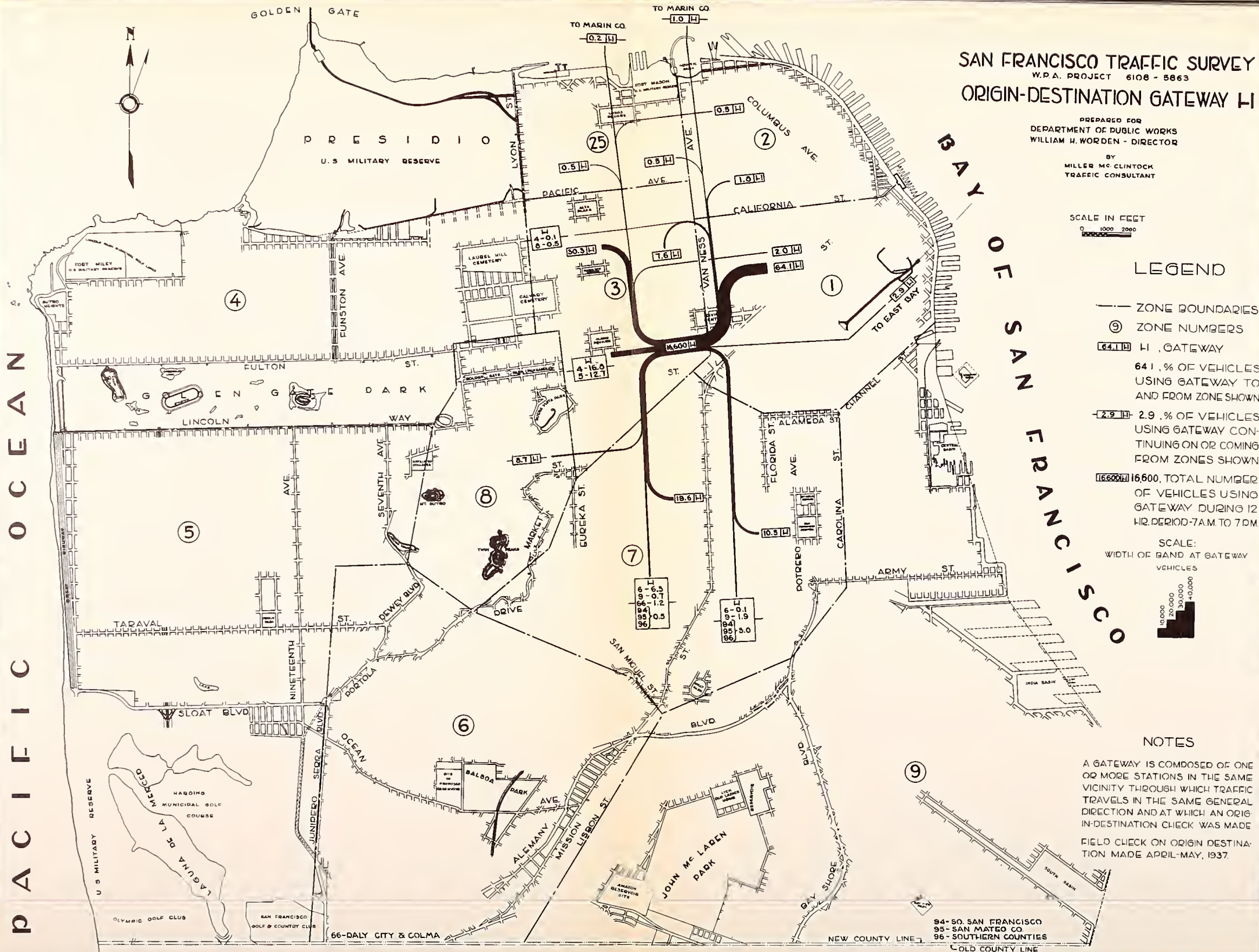
FIELD CHECK ON ORIGIN DESTINATION MADE APRIL-MAY, 1937.

94 - SO. SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES



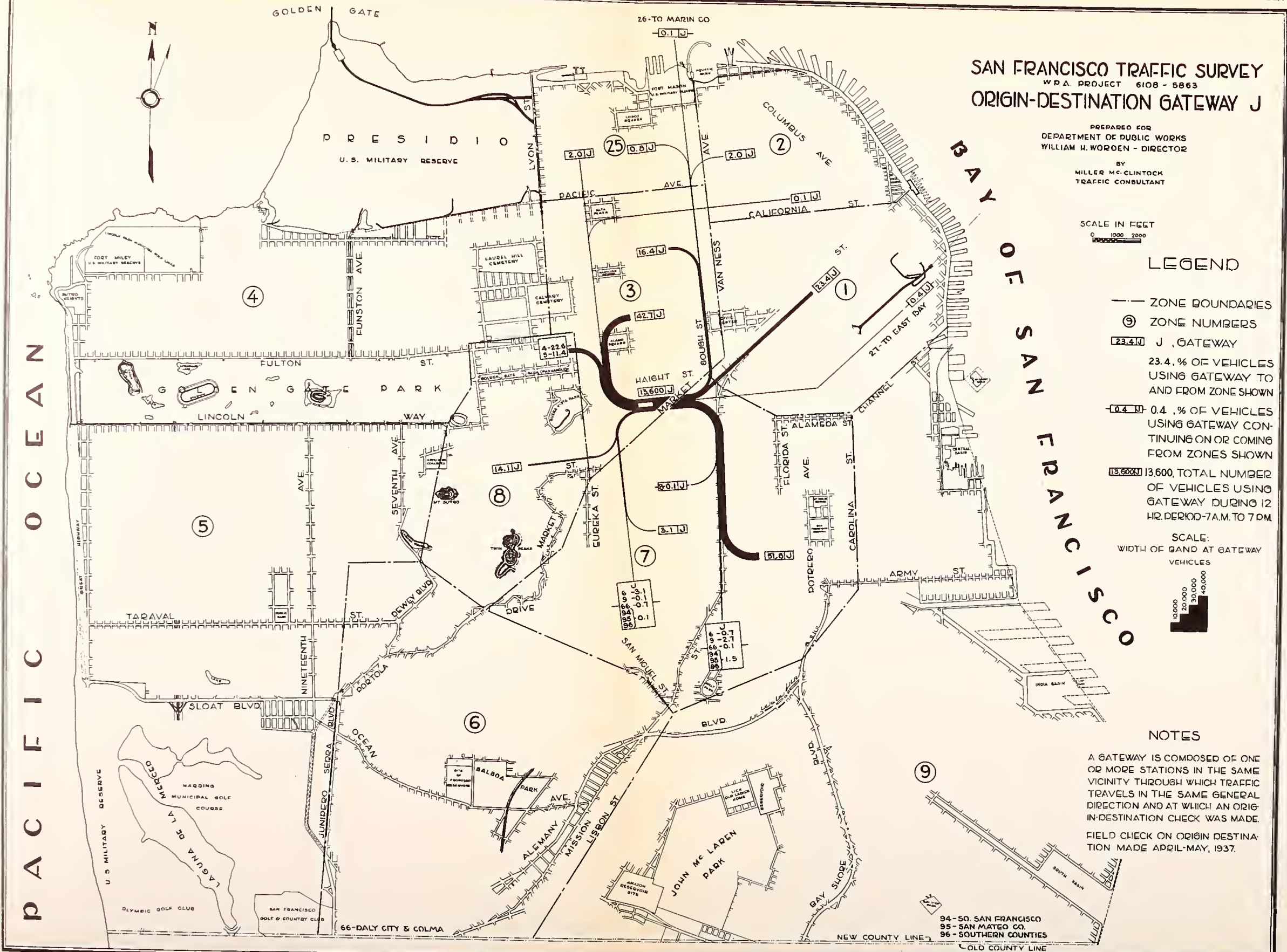
















GOLDEN GATE

P R E S I D I O

U. S. MILITARY RESERVE

26-MARIN CO.

-0.1K-0.1K-

## SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## ORIGIN-DESTINATION GATEWAY K

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTORBY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET

0 1000 2000

## LEGEND

— ZONE BOUNDARIES

⑨ ZONE NUMBERS

63.8K K, GATEWAY

63.6 % OF VEHICLES  
USING GATEWAY TO  
AND FROM ZONE SHOWN-0.3K- 0.3 % OF VEHICLES  
USING GATEWAY CON-  
TINUING ON OR COMING  
FROM ZONES SHOWN9,300K 9,300, TOTAL NUMBER  
OF VEHICLES USING  
GATEWAY DURING 12  
HR. PERIOD-7 A.M. TO 7 P.M.SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES

## NOTES

A GATEWAY IS COMPOSED OF ONE  
OR MORE STATIONS IN THE SAME  
VICINITY THROUGH WHICH TRAFFIC  
TRAVELS IN THE SAME GENERAL  
DIRECTION AND AT WHICH AN ORIG-  
IN-DESTINATION CHECK WAS MADE

FIELD CHECK ON ORIGIN DESTINA-  
TION MADE APRIL-MAY, 1937.

94 - SO. SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES

66 - COLMA &amp; DALY CITY

NEW COUNTY LINE

OLD COUNTY LINE











GOLDEN GATE

TO MARIN CO.

# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## ORIGIN-DESTINATION GATEWAY M

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE IN FEET  
0 1000 2000

### LEGEND

--- ZONE BOUNDARIES

⑨ ZONE NUMBERS

21.0 M GATEWAY

21.0, % OF VEHICLES  
USING GATEWAY TO  
AND FROM ZONE SHOWN

1.0 M 1.0, % OF VEHICLES  
USING GATEWAY CONTINUING ON OR COMING  
FROM ZONES SHOWN

17600 M 17600, TOTAL NUMBER  
OF VEHICLES USING  
GATEWAY DURING 12  
HR. PERIOD-7 A.M. TO 7 P.M.

SCALE:  
WIDTH OF BAND AT GATEWAY  
VEHICLES

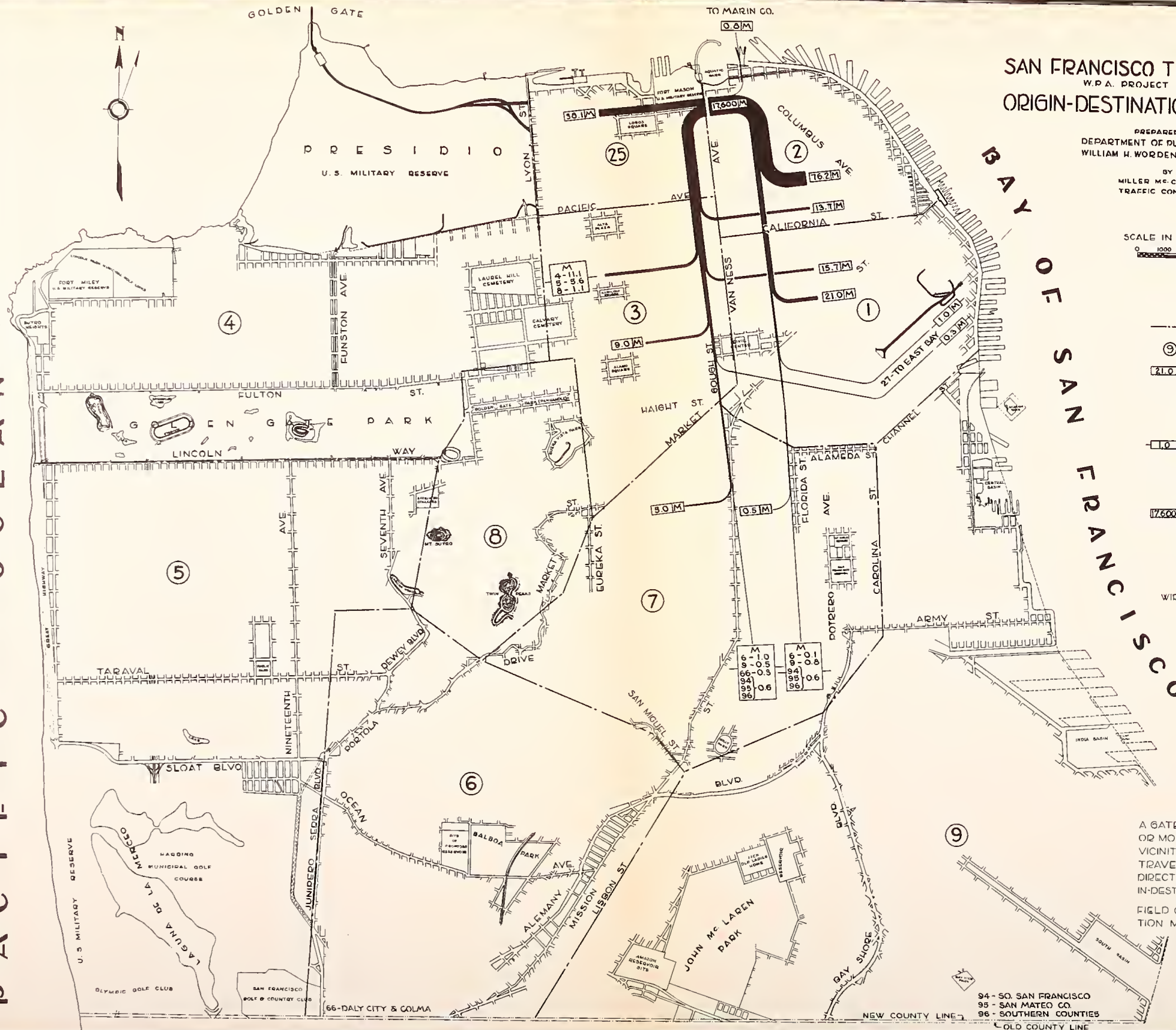


### NOTES

A GATEWAY IS COMPOSED OF ONE  
OR MORE STATIONS IN THE SAME  
VICINITY THROUGH WHICH TRAFFIC  
TRAVELS IN THE SAME GENERAL  
DIRECTION AND AT WHICH AN ORIGIN-  
DESTINATION CHECK WAS MADE

FIELD CHECK ON ORIGIN DESTINATION  
MADE APRIL-MAY, 1937.

94 - SO. SAN FRANCISCO  
95 - SAN MATEO CO.  
96 - SOUTHERN COUNTIES  
OLD COUNTY LINE







## CHAPTER VI

### PEDESTRIAN TRAFFIC

All too frequently the importance of pedestrian traffic is obscured in the general traffic problem. There is no phase of the street traffic problem that is more important than the establishment in the community of sound practices in the mutual use of the street by pedestrians and motorists and the provision of adequate safety facilities for pedestrians. Nearly every one is a pedestrian at some time in his daily use of the streets. From the viewpoint of numbers alone, especially in commercial and shopping districts, the pedestrians far outnumber passengers in motor vehicles. From the viewpoint of safety it is seen that over 71 per cent of traffic deaths are pedestrian fatalities. Moreover, pedestrians contribute about 49 per cent of all personal injuries growing out of street traffic accidents. Any analysis of the street traffic problem of San Francisco must, therefore, give full consideration to the problem of pedestrian movement.

#### *Pedestrian Traffic in the Central Business District*

The greatest concentration of pedestrian traffic is to be found in the Central Business District. The sidewalks of this area were subjected to special analysis. These checks of pedestrians were made on week days from 7 A.M. to 7 P.M. and the results are set forth graphically in Figure 139. The heaviest pedestrian movement is found on the south side of Market Street between Fourth Street and Fifth Street. On this sidewalk nearly 60,000 pedestrians pass in the twelve hour period. The flow of pedestrians on the north side of Market Street at this point exceeds 35,000 so that the total pedestrian movement along Market Street at this point is in excess of 95,000 persons in the twelve hour period. In a similar period, a check of all wheel traffic indicated that there were about 11,500 vehicles including street cars. The volume of pedestrian movement in relationship to vehicular movement is evident. When viewed from the movement of persons, regardless of method of transportation, attention should be given to Figure 75, illustrating the Movement of Persons—Central Business District. This shows the relative number of

people using the street on foot or by other mode of transportation. The summation of relative street use at all of these points indicates nearly 33 per cent of all persons entering or leaving the district do so as pedestrians. Thus, the relative importance of the pedestrian in the use of the street system is emphasized. In many blocks the pedestrian movement far exceeds the passengers in vehicles.

In the Central Business District, Market Street, Montgomery Street, Kearny Street, Grant Avenue, Stockton and Powell Streets are the most important carriers of pedestrian traffic. Generally speaking, the north and south bound movement of pedestrians is heavier for each sidewalk than on the east and west streets in the area north of Market Street.

#### *Pedestrian Movement in Outlying Districts*

A further study of pedestrian flow was made in the outlying business districts. Counts taken in these districts were for the six hour period, from 12:00 Noon to 6:00 P. M. The heaviest flows found in such outlying districts were on Mission Street, between Twentieth and Twenty-fourth, and on Fillmore Street, especially between Turk and Sutter. The relative importance of pedestrian movements in each of these districts is shown on Figure 141. As previously pointed out, it is not without interest to compare these points of pedestrian concentration with the locations of fatalities and personal injuries. See Chapter VII.

#### *Fluctuations in Pedestrian Movements*

It is generally recognized that at times of the day the streets are extremely busy with pedestrian movement whereas at other times there is practically no one using the sidewalks. The fluctuation of the pedestrian loads is set forth in Figures 143 and 144 for a typical location in the Central Business District as well as a typical location in an outlying district. Thus, on Montgomery Street it was found that very few pedestrians were using the sidewalks either at 7:00 o'clock in the morning or at 7:00 o'clock in the evening, whereas during the noon hour the peaks were nearly as high as 2,500 pedestrians per half hour on each sidewalk. The peaks of persons going to work and coming from work are clearly shown. It will be observed that these rush hours of going to and from work are from one-half to two-thirds as high as were found during the noon hour. On the other hand, in the outlying districts, the noon hour travel is rather normal and the peak of pedestrian movement in

these outlying business areas was found to occur between 3:30 and 4:00 in the afternoon.

### *Pedestrian Congestion*

Generally speaking, there is found no serious congestion of pedestrian movements on sidewalks. A study of the volume of pedestrian flow during the peak hours is set forth in Figure 145 and Figure 147. In the Central Business District the highest concentration of pedestrian movement was found on the south side of Market Street between Fourth and Fifth Streets, where the flow was approximately 400 pedestrians per foot width of sidewalk during the peak hour. A similar concentration was found on the west side of Montgomery between Bush and Sutter Streets. The highest concentration in the outlying business districts was found to occur on the west side of Mission Street between Twenty-second and Twenty-third, but at this point the maximum number of persons per foot width of sidewalk during the peak hour was found to be only 156.

A careful analysis of pedestrian movements in other cities, where overcrowding is so severe that pedestrians are forced to walk in the roadway, indicates that the practical saturation point in sidewalk traffic is reached when the rate of flow approaches 800 persons per foot width of sidewalk per hour. At such concentrations as these there is a definite retardation in the speed of pedestrian movement. Thus, it is seen that even in the peak hours of movement there is no serious overcrowding or congestion of sidewalks in San Francisco.

### *Pedestrian Crosswalks*

While there is little evidence of serious congestion on sidewalks, serious conflicts arise between the movement of vehicles and the movement of pedestrians. A sidewalk which carries a normally heavy, though not congested movement of pedestrians, becomes a very congested footway when the free time of flow is seriously reduced by the cross movement of vehicular traffic. Thus, a street which normally calls for fifty per cent of the time to accommodate cross movement of vehicles must double the rate of flow during these intervals when right-of-way is given to crosswalk movements. Because of the importance of the crosswalks on Market Street and in the Central District, special study was made of crosswalk movements in this area. Results of the study have been set forth in Figure 149 and the comparative sidewalk flows paralleling



Market Street are also shown. Here again the heaviest cross movements were found on the crosswalks of Market Street between Third Street and Fifth Street. These crosswalk movements are especially hazardous to pedestrians, as is pointed out in Chapter VII (Accident Analysis).

The problem of moving large numbers of pedestrians across roadways carrying heavy volumes of wheel traffic demands the adoption and observance of rules and regulations which set forth specifically the respective rights and duties of pedestrians and vehicle operators in their use of the street system. It is evident, not only from the viewpoint of the number of persons served, but also from the viewpoint of the hazards which prevail, that the pedestrian requirements cannot be subordinated in a sound plan of traffic regulations.

#### *Pedestrian Protection*

Regardless of the basic law which has developed through centuries of experience, whereby all street users have an equal right to the use of all parts of the public street, and whereby all street users have a responsibility to exercise due care in their use of the streets to the end that they do not cause injuries to others who may be in the street, it must be clear to all who have given serious attention to the present-day traffic problem that certain adjustments have become essential in the present-day use of streets occupied with motor vehicles as well as pedestrians. The common law was developed over centuries of experience before the advent of the motor vehicle. The principles arrived at in common law were satisfactory in times when the major part of wheel traffic was horse-drawn and therefore, slow moving. Unquestionably, the motor vehicle which is less than half a century old, transformed an otherwise balanced situation.

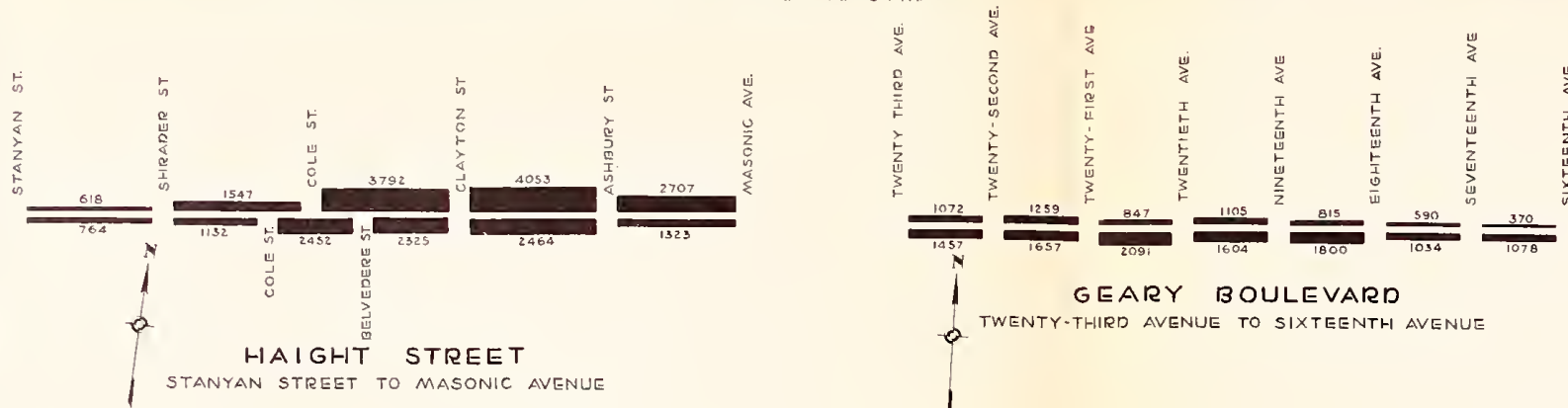
San Francisco was among the earlier cities to recognize the need for refinements in rules pertaining to the use of the streets by pedestrians and motor vehicles. Present regulations of pedestrian traffic which were designed to protect the pedestrian are in close harmony with the model uniform traffic law and the Survey has found no necessity to offer recommendations concerning this phase of traffic regulation. It must be apparent, however, that there still exists a real need for a fuller and more general observance of the rules set forth in the existing traffic ordinance.





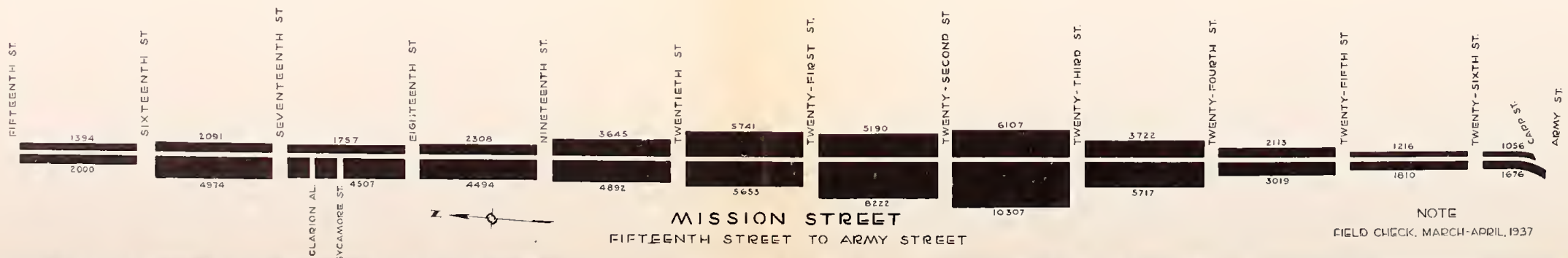
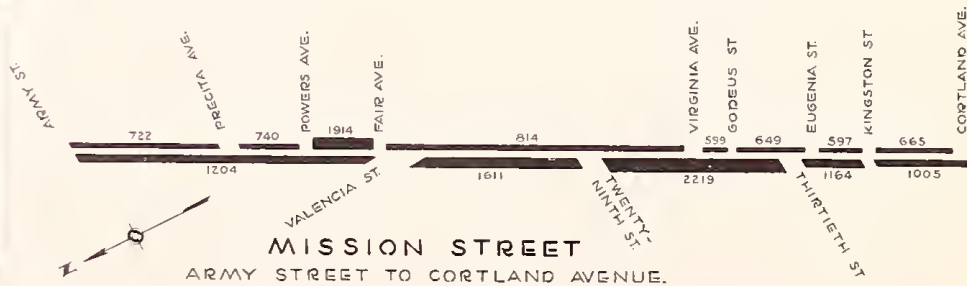
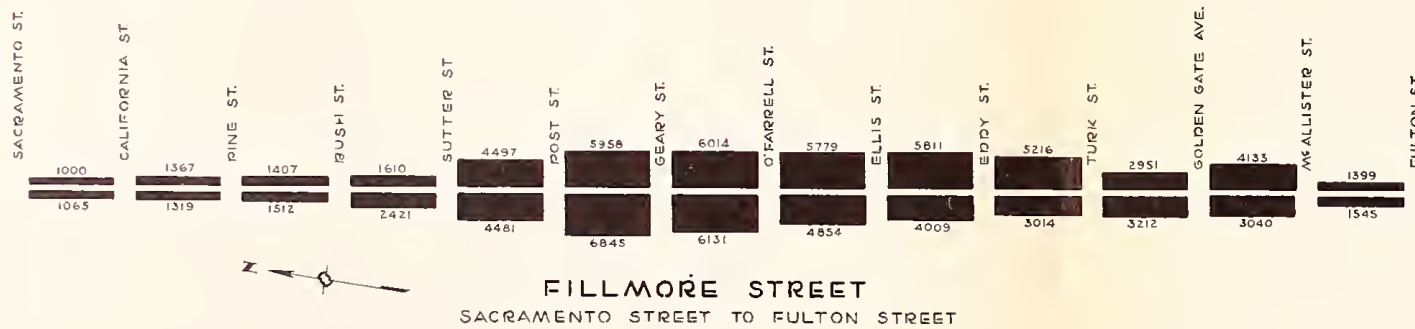
# TOTAL PEDESTRIAN FLOW FOR OUTLYING DISTRICTS

ALL FLOW COUNTS TAKEN FOR 6 HOURS - 12 NOON TO 6 PM.



## GEARY BOULEVARD

TWENTY-THIRD AVENUE TO SIXTEENTH AVENUE



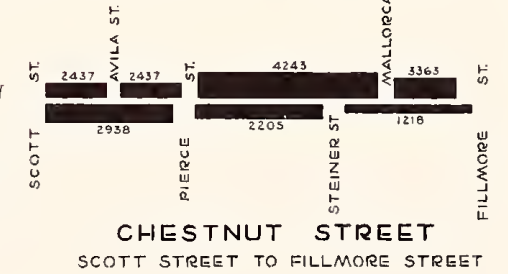
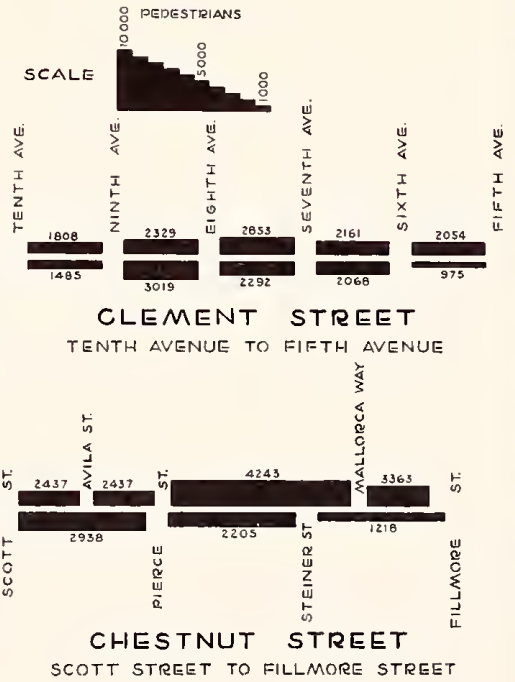
# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## PEDESTRIAN FLOW

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MC CLINTOCK  
TRAFFIC CONSULTANT



NOTE  
FIELD CHECK, MARCH-APRIL, 1937





# SAN FRANCISCO TRAFFIC SURVEY

## PEDESTRIAN FLUCTUATIONS

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WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



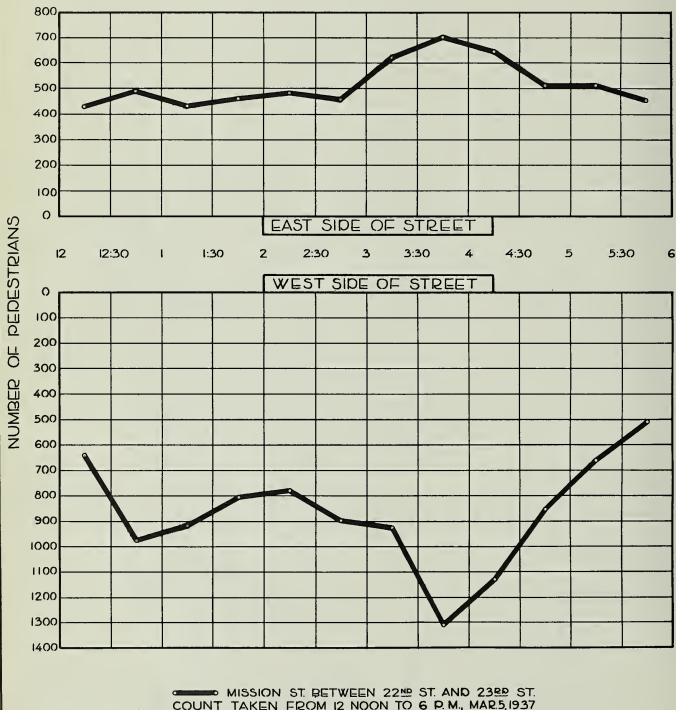
## SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108-5863

## PEDESTRIAN FLUCTUATIONS

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



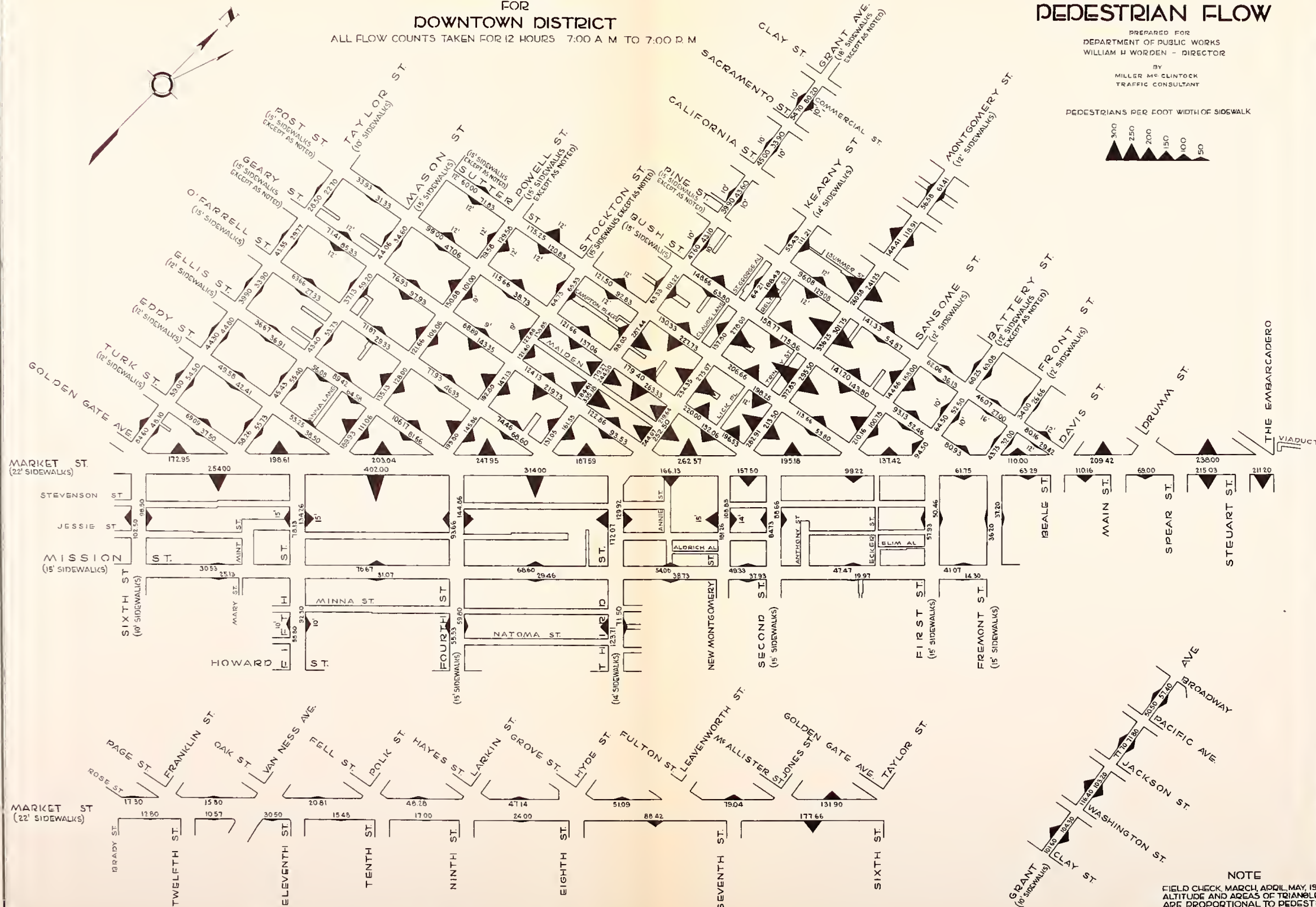
PEDESTRIAN FLOW PER FOOT WIDTH OF SIDEWALK  
DURING  
PEAK HOUR  
FOR  
DOWNTOWN DISTRICT  
ALL FLOW COUNTS TAKEN FOR 12 HOURS 7:00 A.M. TO 7:00 P.M.

SAN FRANCISCO TRAFFIC SURVEY  
W.P.A. PROJECT 6108 - 5863  
**PEDESTRIAN FLOW**

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

PEDESTRIANS PER FOOT WIDTH OF SIDEWALK



NOTE

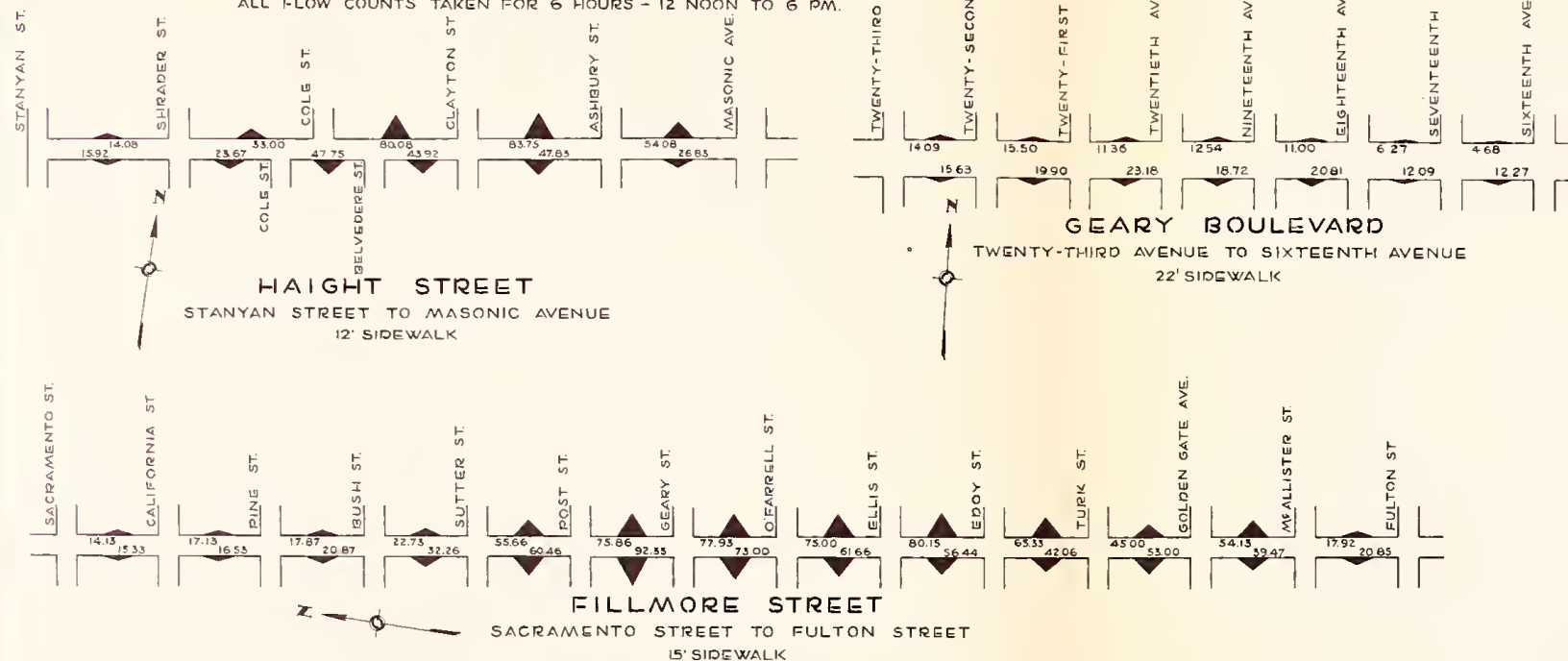
FIELD CHECK, MARCH, APRIL, MAY, 1937.  
ALTITUDE AND AREA OF TRIANGLES  
ARE PROPORTIONAL TO PEDESTRIAN  
VOLUME.





PEDESTRIAN FLOW PER FOOT WIDTH OF SIDEWALK  
DURING  
PEAK HOUR  
FOR  
OUTLYING DISTRICTS

ALL FLOW COUNTS TAKEN FOR 6 HOURS - 12 NOON TO 6 PM.



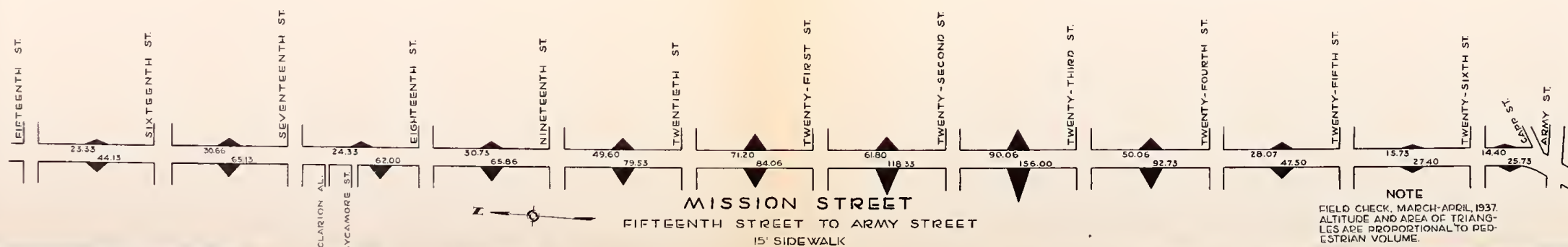
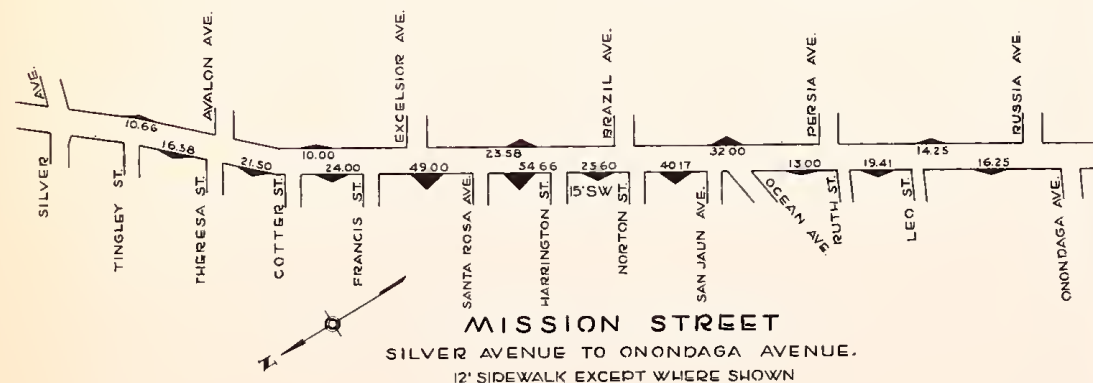
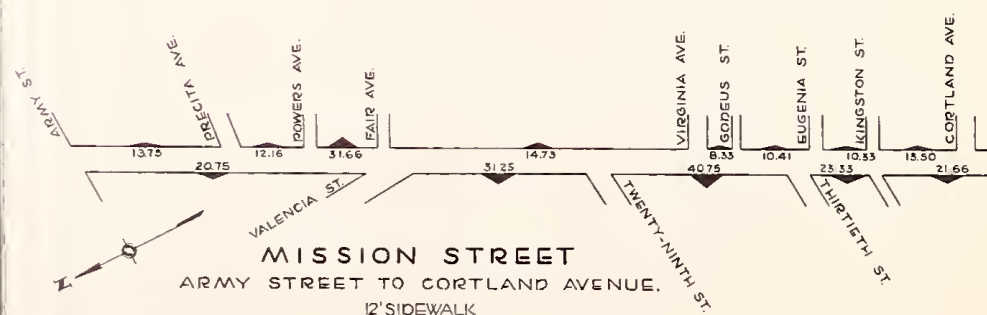
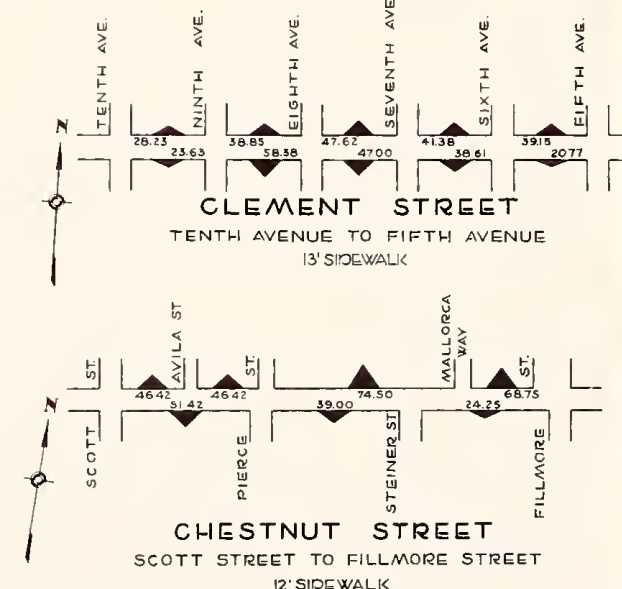
SAN FRANCISCO TRAFFIC SURVEY  
W.P.A. PROJECT 6108 - 5863  
PEDESTRIAN FLOW

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER M. CLINTOCK  
TRAFFIC CONSULTANT

PEDESTRIANS PER FOOT WIDTH OF SIDEWALK

SCALE



NOTE  
FIELD CHECK, MARCH-APRIL, 1937.  
ALTITUDE AND AREA OF TRIANG-  
LES ARE PROPORTIONAL TO PED-  
ESTRIAN VOLUME.



## SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 5863

## TOTAL PEDESTRIAN FLOW

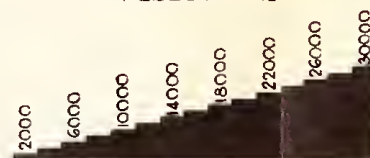
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## MARKET STREET

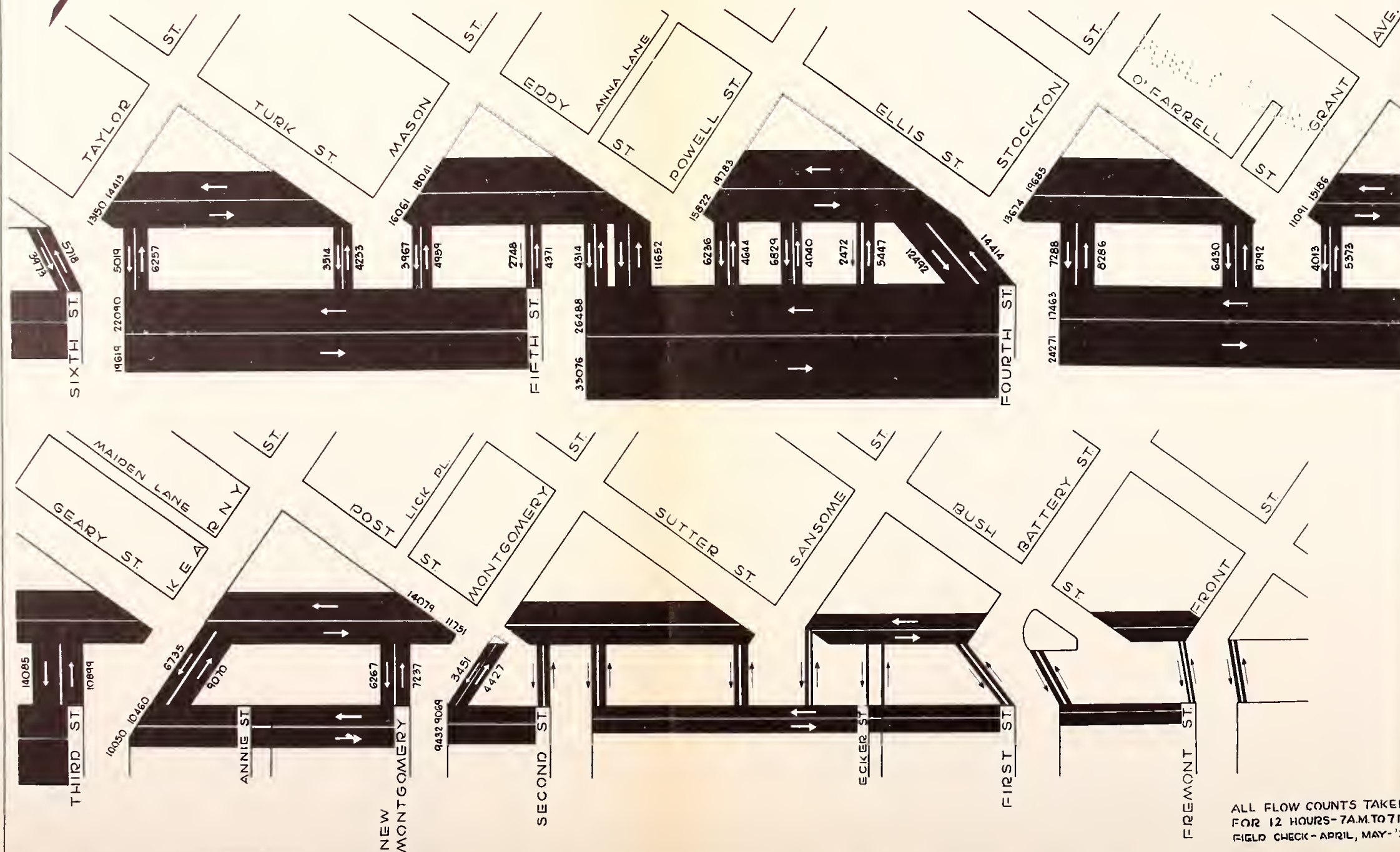
PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

PEDESTRIANS



SCALE



ALL FLOW COUNTS TAKEN  
FOR 12 HOURS-7 A.M. TO 7 P.M.  
FIELD CHECK - APRIL, MAY-'37





*Pedestrian Facilities*

Regardless of the legal rights in their use of the street, and regardless of the modified rules and regulations concerning the use of the streets by pedestrians and motor vehicles, there still exists, in fact, a great deal of conflict between pedestrians and motor vehicles in their common use of the roadways. Indeed, it is found, as previously pointed out, that nearly one-half of personal injuries which grow out of traffic accidents, involve pedestrians. It seems evident, therefore, that something more substantial than rules, regulations and legal rights is required, particularly in view of the lax observance by motorists and pedestrians of such rules and regulations. While the power of the pedestrian to do injury is not equal to that of the motor vehicle, the power to obstruct traffic movement is more nearly equivalent. As a practical matter it seems essential that further protection be given to the pedestrian which will help to bring about a safer condition in the streets, not only through a more general observance of rules and regulations, but also by adoption of physical protections.

Accordingly, the Survey recommends for consideration of the official traffic agencies the immediate study of pedestrian crossing problems, and the installation of traffic equipment and facilities which will be of material assistance to pedestrians in crossing heavily traveled arteries. It has been found, for example, that over 344 intersections exist in the City of San Francisco where the total flow of vehicles exceeds 10,000 in a twelve-hour period. At nearly all of these points pedestrian movements are found in a greater or less degree. It is suggested that each of these locations is a logical candidate for signal control, especially where pedestrian movements warrant such additional protection. It is also recommended that at those locations where pedestrian movements are frequent, that a fuller use be made of crosswalks and pavement markings and signs warning the motorists of such condition. Crosswalks should be placed with due regard to pedestrian practices in crossing the roadway. The design should be balanced so that the sacrifice of convenience to the pedestrian in directness of crosswalk is offset by the increase in safety. Crosswalks should be placed so that the pedestrian will be required to spend a minimum amount of time in the roadway. Long crosswalks, running at acute angles, across heavily traveled arteries, are undesirable.

As a principle in design the Survey recommends that all existing thoroughfares and certainly all new thoroughfares be so designed that

pedestrians will not be required to cross more than two or three lanes of moving traffic, without an island of safety on which to take refuge from heavy vehicular movements. Special attention should be given toward the protection of school child pedestrians and children of school age. Every effort should be given to the end that adequate playground facilities are provided in order that children will not, of necessity, play in the street areas. To this end a thorough study should be made of all school sites and playground sites, and traffic equipment such as crosswalks, warning signs, etc., should be installed at those places where children of school age are frequently found to be crossing the roadway. School and playground safety work conducted by the Police Department is commended and should be expanded.

In the future a more intensive effort should be made toward the elimination of sidewalk obstructions which, in some cases, may constitute only minor irritants, while in others they have been found to present real hazards to pedestrians. Especially at intersections where pedestrians must leave the sidewalk to enter the crosswalk, sidewalk ob-

TABLE 152

SIDEWALK OBSTRUCTIONS IN THE CENTRAL BUSINESS DISTRICT  
NORTH OF MARKET STREET

(Observations taken on Market Street and streets running North and South only)

<i>Character of Obstruction</i>	<i>Number of Obstructions</i>		<i>Per Cent Sidewalk Width Obstructed</i>	
	<i>Total except Market St.</i>	<i>Market Street Only</i>	<i>Average except Market St.</i>	<i>Market Street Only</i>
Trolley and Light Poles.....	259	75	23	18
Trash Boxes .....	43	41	24	16
Mail Boxes .....	42	38	25	20
Parking Signs .....	168	39	18	10
Fire Plugs .....	76	48	26	16
Street Marker .....	6	8	14	9
News Stands .....	63	39	25	20
Flower Stands .....	7	....	40	....
Shoe Shine Stands.....	9	....	20	....
Fire and Police Telephones.....	26	17	24	14
Signs .....	33	25	25	20
Signals .....	48	39	18	12
Barber Poles .....	19	3	15	10
Bicycle Stands .....	8	2	33	20
Elevators .....	237	71	50	36
Street Clocks .....	1	3	33	18
Scales .....	2	....	20	....

structions which blind the view of the pedestrian should not be tolerated. A list of sidewalk obstructions on selected streets in the Central Business District is set forth in Table 152. The values obtained speak for themselves. Newspaper stands and other merchandising operations which require structures so high that the pedestrian cannot see over them should be either removed from the intersection or set back against the buildings where they will not constitute a hazard.

Parking vehicles in pedestrian crosswalks should be given special enforcement attention because of the inherent hazards to pedestrians which grow out of such practices.

### *Bridge Transportation and Pedestrian Traffic*

When mass transportation is started on the San Francisco-Oakland Bay Bridge all trains will discharge their passengers at the so-called Plan X Terminal located on Mission Street between First and Fremont Streets. The majority of these passengers will become pedestrians or street car passengers, largely destined for the retail or financial districts to the north side of Market Street. It has been apprehended by some that this distribution will cause serious inconvenience and congestion. In some part this apprehension may be based upon former trans-bay ferry practice under which as many as 4,000 passengers were discharged from a single boat and on fifteen or twenty minute headways. With low headway operation of the trains and with maximum discharge per train of probably not more than 500 passengers, the critical surges formerly experienced will not exist.

Formerly all trans-bay passenger movements converged at the Ferry Building, but under the new system there will be various arteries for the dispersion of street car or pedestrian traffic. First Street will, however, probably be the major carrier of pedestrian movement bound for the north side of Market Street or to buildings abutting on the south side of Market Street.

In First Street between Mission Street and Market Street there are two fifteen-foot sidewalks, one on the east side and one on the west side. In combination these two sidewalks can carry 15,000 persons per hour at a rate of flow of only 500 persons per foot of width of sidewalk per hour. This is, however, a comparatively low density, as many sidewalks carry 800 per foot of width per hour before reaching saturation. If this maximum rate be taken, the First Street sidewalks have an operating



capacity of 24,000 persons per hour. Maximum ferry service per hour showed approximately 30,000 passengers. If the trans-bay service should equal this maximum per hour performance, and all passengers should be required to leave the Plan X Terminal by First Street, it is apparent that the existing sidewalks would be overloaded.

This, however, will not be the case. While it is impossible to estimate at this time the proportion of total passengers who will take street cars or other means of transportation to their destination, it may be assumed safely that at least fifty per cent of the load will so move. In addition, some substantial proportion of the pedestrian load will leave or enter the Plan X Terminal by way of Minna Street, Fremont Street and Mission Street. The Survey has no fear that the existing facilities will not be able to handle the necessary traffic and recommends that actual experience be permitted to guide any further improvements. Adequate relief measures through elevated sidewalk construction or otherwise could be built, if required, in a short period of time.

It should also be noted in connection with the distribution of bridge traffic that the Limited Way Plan as set forth in Chapter X provides connections closely adjacent to the Plan X Terminal, and affords loop connections into and through the central business area, which may well serve as the basis for a high speed bus distributor system.

## CHAPTER VII

### ACCIDENT ANALYSIS

There is no phase of the traffic problem that is more compelling than that of public safety. Indeed, the problem of automobile accidents provides a fertile field for emotional thinking and this too frequently has resulted in loose action. Safety slogans and propaganda based on emotional appeals have never proved their ability to touch any substantial portion of the problem.

On the other hand there are those who coldly accept accidents with a fatalistic view and believe that little or nothing can be done about them. They dismiss the problem as the price which must be paid for the use of the modern motor vehicle. Others will convincingly say that speed is the only factor to deal with in eliminating accidents and still others point to incompetence, carelessness, recklessness or drunkenness as the prime factor to attack in dealing with motor vehicle accidents.

To the student of traffic, there is no single cause, or single panacea, but rather a growing realization of the complexity of the problem and the lack of satisfactory methods to cope with it. They recognize that accidents occur as a result of a large variety of contributing causes and factors, which may be classified under the general categories of "The Highway," "The Vehicle," "The Driver," and "The Pedestrian." Similarly the various remedies and methods of procedure which suggest themselves may be classified under the captions of "Research," "Engineering," "Education" and "Enforcement."

The present purpose is to inquire into the *facts* of accident occurrence in San Francisco, in order that intelligent consideration may be given to the various *known* factors which surround accident occurrence.

#### *Trend of Accident Occurrence*

The accident situation in San Francisco compared with the rest of the Nation is set forth in Table 156.

It will be noted from this table that motor vehicle fatalities have nearly doubled for the Nation since 1924, whereas in San Francisco there

TABLE 156  
FATAL MOTOR VEHICLE ACCIDENTS  
(San Francisco and National Experience)

<i>Year</i>	<i>National Fatalities</i>	<i>San Francisco Fatal Accidents</i>
1924 .....	19,228	103
1925 .....	21,628	100
1926 .....	23,264	123
1927 .....	25,533	158
1928 .....	27,618	132
1929 .....	30,858	107
1930 .....	32,540	126
1931 .....	33,346	104
1932 .....	29,196	121
1933 .....	31,078	124
1934 .....	35,769	106
1935 .....	36,100	108
1936 .....	36,800	102

has been little change. Although the number of fatalities for San Francisco alone are of such low values that they are unsatisfactory for statistical comparative purposes, there is an indication of a local downward trend, particularly manifest since 1927 when a new system of regulation and administration was adopted.

In connection with this comparison, however, it should be borne in mind that San Francisco is an urban district and the National figures reflect conditions not only for urban, but also for rural districts. Approximations based on the United States Census Bureau data indicate, however, that cities over 10,000 population show an increase of from twenty to twenty-five per cent in motor vehicle deaths since 1924.

Thus it can be confidently stated that on the basis of fatal accidents, San Francisco has held a relatively favorable trend with reference to other urban communities.

A comparison of the present position of San Francisco with reference to other cities is set forth in Table 157.

It will be noted from this table that San Francisco is below the average of all American cities over 500,000 population, and that it enjoyed last year the fifth lowest death rate, there being only 15.5 persons killed by motor vehicles per 100,000 population.

As stated heretofore, the number of fatal accidents for San Francisco, while broadly indicative of conditions generally, is too small for

TABLE 157<sup>1</sup>  
MOTOR VEHICLE DEATH RATES  
IN CITIES OVER 500,000 POPULATION

	<i>Per 100,000 Population</i>	<i>Per 10,000 Vehicles</i>
New York City.....	11.7	10.9
Milwaukee .....	11.7	5.2
Philadelphia .....	12.8	9.2
Baltimore .....	15.3	9.1
San Francisco .....	15.5	6.5
Boston .....	17.2	12.0
St. Louis .....	17.7	8.4
Buffalo .....	18.0	7.9
Detroit .....	21.4	8.2
Pittsburgh .....	21.7	12.8
Chicago .....	22.8	14.9
Cleveland .....	23.5	9.4
Los Angeles .....	37.2	11.8

(<sup>1</sup>From National Safety Council 1937 issue of Accident Facts)

satisfactory statistical comparison. Accordingly, there has been set forth graphically in Figure 158 the record of all motor vehicle accidents which have been recorded in San Francisco since 1925.

The economic depression of 1930 is very clearly shown and with the return to normal business operations the accident situation today is slightly worse than it was in 1925, but below the rather normal years of 1926 and 1927.

#### *Fluctuations of Accident Occurrence*

The accident occurrence during the past several years has fluctuated from a peak in 1931 of 8,260 total reported accidents, to a low in 1933 of 5,520 accidents per year. The mean value indicates over 7,000 reported motor vehicle accidents per year.

A further analysis of the fluctuation of accident occurrence is set forth in Figure 159 which indicates the distribution of accidents for the months, days and hours throughout the year. Values indicated include all reported accidents and show the mean of three years' experience; that is, 1933, 1934 and 1935. It will be noted that December develops more accidents than any month of the year, and the lowest volume of accident occurrence is found in June.

A number of contributing factors suggest themselves in connection with this variation, thus for example: summer vacations take a con-



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# SAN FRANCISCO TRAFFIC SURVEY

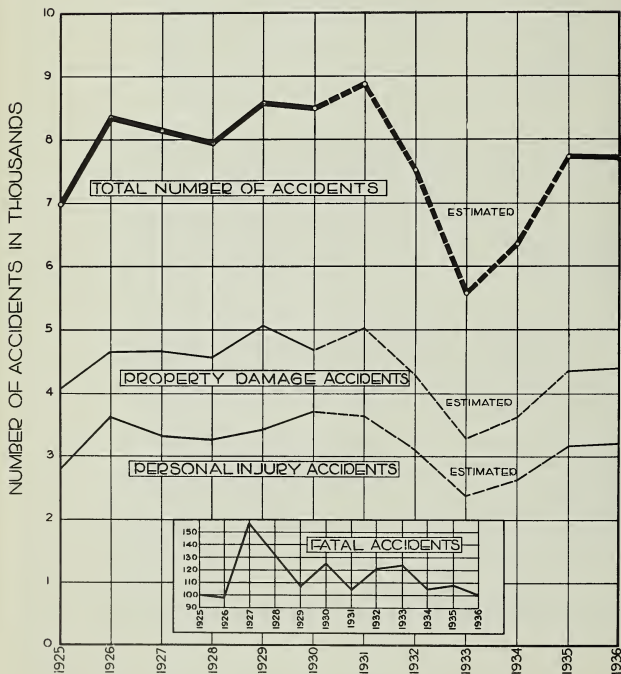
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## ACCIDENT ANALYSIS RECORD BY YEARS

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

DATA FROM SAN FRANCISCO POLICE DEPARTMENT



## SAN FRANCISCO TRAFFIC SURVEY

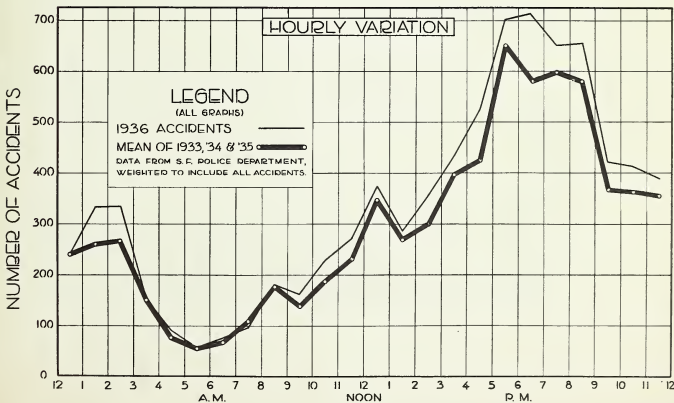
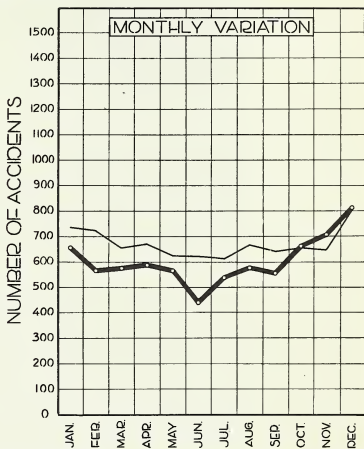
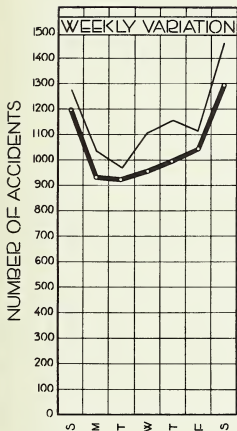
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# ACCIDENT ANALYSIS

## MONTHLY, WEEKLY & HOURLY VARIATIONS

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT





siderable number of people away from the city. Moreover, the winter months are generally wet. Inter-relationships, however, between the number of accidents and the variations of the causes for these accidents are too involved to attribute any very definite reason or reasons for these monthly variations. The curve, however, is significant in the application of accident reduction measures, inasmuch as accidents are occurring with approximately twice the frequency in December that they are in the month of June.

The variations with respect to the days of the week are also interesting. Saturdays and Sundays, as is typical for most American cities, are outstanding days of accident occurrence, Saturday being the highest day of the week, and Sunday the second highest, there being approximately 1,300 a year occurring on Saturday and approximately 1,200 a year occurring on Sunday. This value is reduced to a little over 900 a year for Monday and Tuesday and gradually increases to approximately 1,050 per year on Fridays.

Attention is further turned to the variation of accident occurrence with respect to the hours of the day. The lowest point of accident occurrence is found to be between five and six in the morning, and the highest point is found to be between five and six at night. These points correlate very closely with the volume of traffic movement, so that generally speaking accident occurrence is high when traffic flows are high and fall with reduced traffic volume. While this correlation is generally true, there is a tendency for the curve for accident occurrence to continue at a high rate particularly between the hours of 6 P. M. and midnight. Especially in these hours the frequency of accidents is extremely high with reference to the volume of traffic movement.

These studies in the fluctuation of accident occurrence with respect to the month, day and hour should serve as a direct warning to the individual motorist as well as the pedestrian, and should be helpful to the police in the application of enforcement strength.

### *Types of Accident*

It was found from the analysis of the San Francisco Police Department records, that private passenger automobiles are involved in approximately 78.6 per cent of the accidents. Trucks and commercial vehicles were involved in over nine per cent, and motorcycles, taxicabs,

buses and jitneys, figured less than five per cent of the cases. See Figure 162.

Based on 1936 registration, slightly over eight per cent of the registered vehicles were trucks, yet they figured in slightly over nine per cent of the accidents. It must be borne in mind, however, that the average truck spends more time in traffic than the average passenger automobile, and is therefore subjected to greater exposure to accidents. For example, a check of the types of carriers entering the Central Business District indicates that about 15.5 per cent of all vehicles entering and leaving this district are trucks.

On the basis of an analysis of records furnished by State Motor Vehicle Bureaus and City Police Departments, the National Safety Council points out that since 1927 passenger vehicles involved in fatal accidents increased 58 per cent while trucks so involved have advanced only 15 per cent. Moreover, on the same basis, buses and taxicabs have shown a decline of 20 per cent and 49 per cent respectively. It is generally conceded that commercial vehicle accidents can be brought under control, because of the very definite relationships which exist between the employer and drivers of commercial vehicles. Safety work among commercial fleets pays worthwhile dividends and should be encouraged in San Francisco.

A further analysis indicates that only in approximately one-half of all motor vehicle accidents, another motor vehicle is involved. In about one-fourth of all motor vehicle accidents the pedestrian is involved. In ten per cent of the cases, motor vehicles collide with fixed objects and in at least one accident out of every twenty, the motor vehicle was found to become involved in an accident without collision, that is, by skidding, turning over, etc. Five per cent of the accidents involved motor vehicles colliding with street cars. This distribution of accidents is not unusual and is rather comparable with the experiences of other cities.

#### *Prevailing Conditions of Accident Occurrence*

Further study of accident occurrence indicates that generally speaking, the majority of accidents occur in dry weather at intersections and under darkness. A distribution of accidents by these conditions is set forth in Figure 163.

An attempt has been made to compare the frequency of accidents occurring on an average day of dry weather with the number of accidents

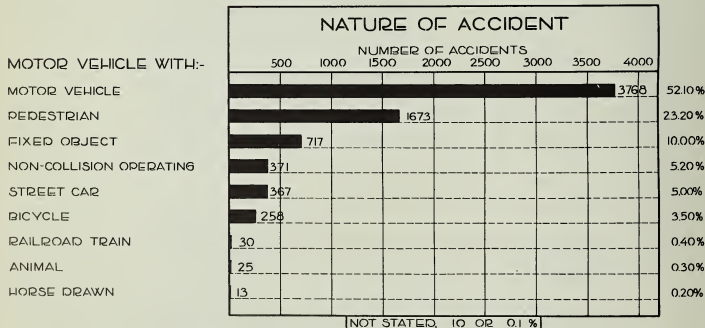
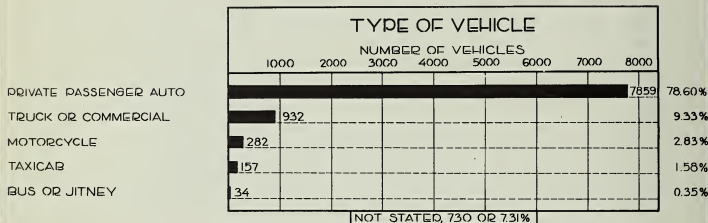
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## ACCIDENT ANALYSIS TYPES

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DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



IN BOTH CHARTS, THE DATA IS MEAN OF 1934, 1935 AND 1936 SAN FRANCISCO POLICE DEPARTMENT RECORDS, WEIGHTED TO INCLUDE ALL VEHICLES AND ACCIDENTS. IN FIGURING THE PERCENTAGES GIVEN, "NOT STATED" CASES ARE INCLUDED IN TOTALS FROM WHICH PERCENTAGES ARE DERIVED.

TOTAL NUMBER OF VEHICLES, 9994.  
TOTAL NUMBER OF ACCIDENTS, 7232.

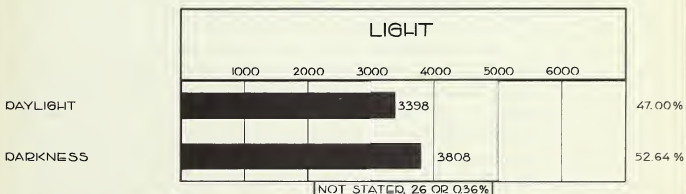
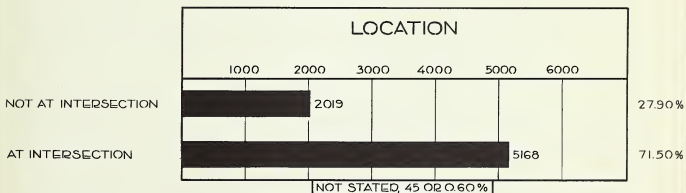
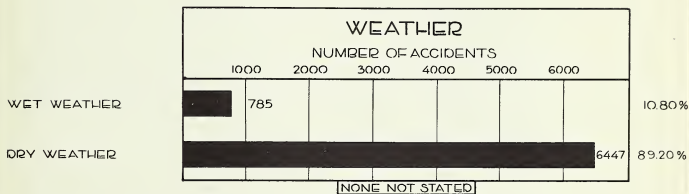
# SAN FRANCISCO TRAFFIC SURVEY

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## ACCIDENT ANALYSIS LOCATION-WEATHER & LIGHT CONDITIONS

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DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
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occurring on an average day in wet weather. It is found that on the average dry, clear day, twenty-two accidents occur in the city, whereas, on the average wet, rainy day, only ten accidents occur. This would seem to indicate that the hazards of operations which are ordinarily greater when the pavements are wet and slippery, have been more than compensated for, because of a general realization by drivers of such hazards. It may be suggested of course, that there is less traffic on the streets on a wet weather day than on dry weather days, but the ratio could never be taken as more than two to one. It seems conclusive, therefore, that the public is generally awakened to the unusual driving hazards to be found in wet weather, and have adjusted their driving habits on wet weather days so that their increased carefulness more than compensates for the unusual hazards to be found.

With reference to the general location of accident occurrence, it has been found that nearly three out of every four accidents occur at intersections. A similar distribution of the fatal accidents, however, indicate that as many fatal accidents occur between intersections as are found to occur at intersections. It is believed that this is largely due to the rather prevalent practice of pedestrian "jay walking." See Figure 171, (Pedestrian Analysis).

With reference to prevailing light conditions under which accidents occur, it is found that slightly more accidents occur under darkness than under daylight conditions. Furthermore, it has been found that three-fourths of all fatalities occur under darkness. Hence, not only the number of accidents is greater during darkness, but also the severity increases with darkness. The number of accidents reported as occurring during the dusk period is insignificant, and for the purpose of this report have been added to those occurring under darkness.

It is obvious that the volume of traffic movement during the dark hours does not compare with the volume of traffic movement during daylight hours. Moreover, with night-fall, speeds tend to decrease. Intoxication of both pedestrian and driver can be expected to be greater in the evening, but such condition is found in only a relatively small number of accidents. It is generally concluded that the principal cause for increase in night accidents is due to the lack of illumination. Experience in other cities shows a marked correlation between fatalities and the degree of darkness to be found on the street. Cities which have reduced their street lighting cost have suffered marked increases, par-

ticularly in pedestrian fatalities. It would seem, therefore, that San Francisco should look seriously toward the improvement of her street lighting conditions and that definite returns will be given with improved street illumination.

### *The Driver*

Analysis of the accident in respect to the action of the driver, shows that the great bulk of accidents occur when the driver is proceeding in a normally straight direction. Unusual moves, such as left turning, backing, right turning, slowing down, skidding, etc., occur in less than eighteen per cent of the accident cases. See Figure 167. Moreover, the severity of the accident increases when the drivers were proceeding in a normally straight course, in that one hundred and three fatalities out of one hundred and sixteen occur through this action of the driver. Thus, it is seen that the great majority of accidents occur under normal direction of vehicular movement and practically all fatal accidents occur from such movement.

With reference to the condition of the driver, the Police records do not indicate any unusual condition in approximately eighty-two per cent of the cases. Presumably no unusual condition of the driver was apparent. Reckless drivers were found in eleven and thirty-five hundredths per cent of all drivers involved in accidents. Nearly five per cent of drivers involved in accidents were considered intoxicated. A negligible number were confused, had gone to sleep, or had physical defects.

In approximately seventy-two per cent of the accident reports, no violation on the part of the driver was noted. The reason for failure to charge drivers with violations in accident cases are many, but perhaps the fact that in a majority of cases the police are not actually eye witnesses to the accident is sufficient reason for not indicating violation on the part of drivers of vehicles involved in accidents. It seems reasonable to believe in view of the experience which we have gained through the years of motor vehicle operation and the laws which have resulted from this experience, that back of every accident there has occurred some violation of the motor vehicle regulations.

Of the twenty-eight per cent of the cases in which the police noted some violation by the driver, the most frequent charge was that of reckless driving. The distribution of approximately twenty-eight per cent of all cases into twenty-two different types of violations, results in percent-

age values which are too low to have significance. The serious violations, however, which were noted, indicate urgent need for a healthier respect for driving regulations. See Figure 169. Between three and four cases out of every hundred involving accidents, show that the driver had left the scene of the accident without identifying himself or rendering aid to injured parties. This situation demands more drastic punitive action.

A study of the driver, with respect to age, is set forth in Figure 170. Beginning with the legal age for driving, that is fourteen, and with due weight being given to the population of each age group, it is found that the most dangerous age is between twenty and thirty. This is in close accord with general accident experience, and indicates the need for corrective influence especially for the younger driver who is filled with a spirit of adventure and has not yet reached the age of discretion.

### *Pedestrians*

Analysis of the actions of pedestrians involved in accidents is set forth in Figure 171, and indicates that approximately four out of every ten pedestrians are involved in accidents at crossings where no signals exist. As previously indicated twenty-three per cent of pedestrians involved in accidents were crossing between the intersections. The hazards of this action are brought out, inasmuch as forty per cent of pedestrian fatalities occur between intersections. While it is true that sixteen per cent of the pedestrian group were playing in the street when the accident occurred, the severity of this type of accident seems to be less, inasmuch as only three and one-half per cent of the pedestrian deaths occurred in this category. The child playing on the street in plain view of the motorist does not present the hazard of a pedestrian coming from behind a parked vehicle into the path of an oncoming vehicle. Various other actions of pedestrians will be noted from the Figure 171.

The condition of the pedestrian was indicated in only thirty-four per cent of the cases reported. If it is assumed that in sixty-six cases out of every hundred no unusual condition existed, then in twenty per cent of pedestrian accidents the pedestrian was observed to have been careless and in nine and one-half per cent of the cases the pedestrian was drunk. Reported drunkenness among pedestrians, it seems therefore, is about twice as great as among drivers. Aside from drunkenness and carelessness, the unusual conditions of pedestrians were negligible.

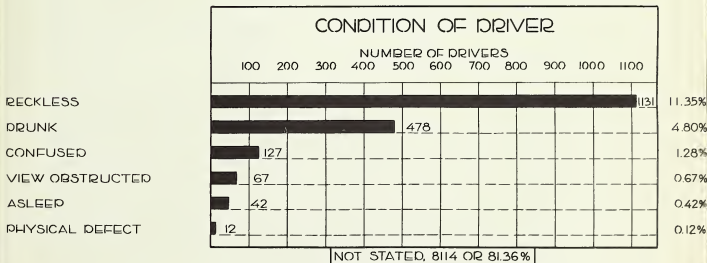
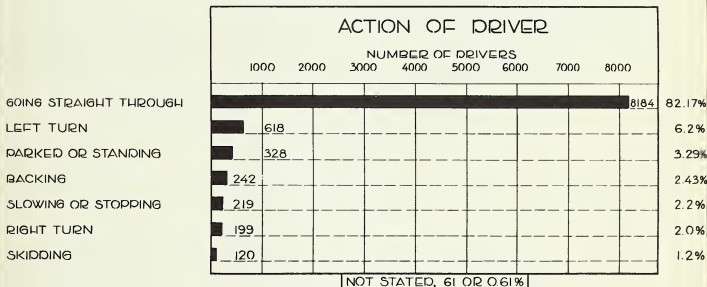
# SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108-5863

## ACCIDENT ANALYSIS ACTION & CONDITION OF DRIVER

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



DATA IS MEAN OF 1934, 1935 AND 1936 SAN FRANCISCO POLICE DEPARTMENT RECORDS, WEIGHTED TO INCLUDE ALL DRIVERS. "NOT STATED" ACTION BY DRIVERS AND CONDITION OF DRIVERS ARE INCLUDED IN TOTAL FROM WHICH PERCENTAGES ARE DRAWN TOTAL NUMBER OF DRIVERS, 9971.



With due regard to the number of persons in each age, the hazard to pedestrians shows a very sharp peak at five years. This falls rapidly to the lowest point at approximately twenty-three years of age, and rises rapidly from sixty years of age and over. It is seen therefore, that the very young and the very old pedestrian groups suffer far greater hazard than is found in the ordinary years from fifteen to sixty. See Figure 172.

### *Location of Accident Occurrence*

While the foregoing analysis shows in a general way the frequency and some of the more interesting conditions surrounding accident occurrence generally, it becomes pertinent to study the distribution of accidents with respect to the place of occurrence throughout the city. For this reason a Spot Map showing the locations of all accidents resulting in fatality or injury during the year 1936 has been prepared and is set forth in Figure 177. This distribution of accidents should be studied in connection with Figure 37, (Predominant Land Uses) and Figure 55, (Vehicular Flow).

It will be noted that there is a general tendency toward concentration in areas of a predominantly commercial character, such as the Central Business District and the Mission District.

It should be observed that arteries which carry heavy volumes of traffic, especially where there is a heavy use of street by both vehicle and pedestrian, have a concentration of accident occurrence. The great majority of accidents generally take place along traffic arteries which penetrate commercial areas. Van Ness Avenue and Market Street are especially productive of personal injury accidents. Mission Street throughout its length, and Potrero Avenue, are also locations of high accident frequency.

It should be noted that a large portion of the city is relatively free from accidents. A more refined study of the distribution of accidents is set forth in Figure 179. On this map only those intersections which had a total of fifteen or more accidents during the three-year period, 1934, 1935 and 1936, are shown. The relative concentration of accidents at each of these locations is indicated. It is to this type of location that special attention must be given in coping with accident occurrence in San Francisco. A list of the ten intersections which held the highest accident frequency in 1936 is given in Table 173.

# SAN FRANCISCO TRAFFIC SURVEY

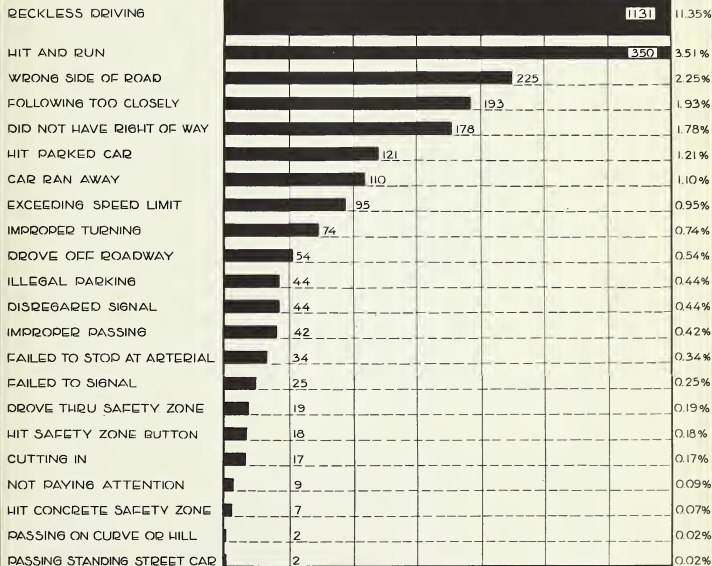
W. P. A. PROJECT 6108-5863

## ACCIDENT ANALYSIS DRIVER VIOLATIONS

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

### NUMBER OF DRIVERS



DATA IS MEAN OF 1934, 1935 AND 1936 SAN FRANCISCO POLICE DEPARTMENT RECORDS, WEIGHTED TO INCLUDE ALL DRIVERS. "NOT STATED" DRIVERS (7,177 OR 72.0%), ARE INCLUDED IN THE TOTAL FROM WHICH PERCENTAGES ARE DERIVED. TOTAL NUMBER OF VIOLATIONS, 9971.

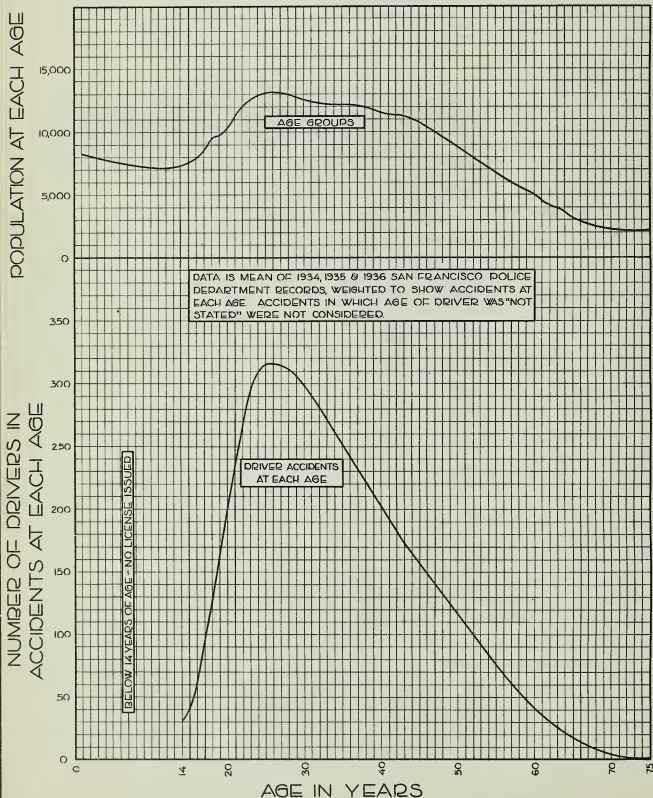
# SAN FRANCISCO TRAFFIC SURVEY

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## ACCIDENT ANALYSIS DRIVERS-AGE GROUPS

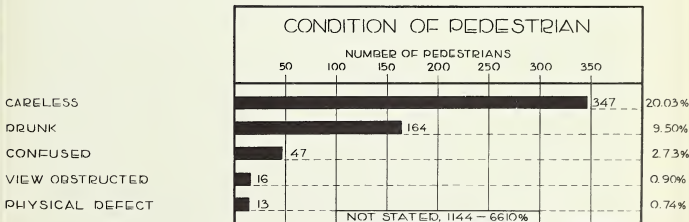
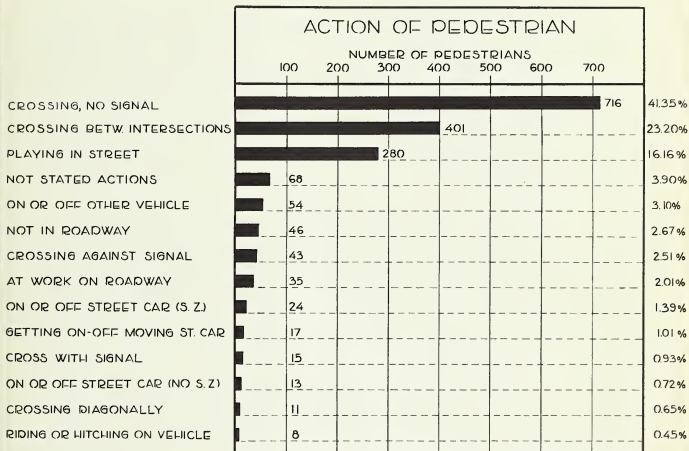
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DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
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## SAN FRANCISCO TRAFFIC SURVEY

W P A PROJECT 6108 - 5863

ACCIDENT ANALYSIS  
PEDESTRIANPREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTORBY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

DATA IS MEAN OF 1934, 1935 AND 1936 SAN FRANCISCO POLICE DEPARTMENT RECORDS. "NOT STATED CONDITIONS OF PEDESTRIANS" (1144 OR 66.10%) ARE INCLUDED IN THE TOTAL FROM WHICH PERCENTAGES ARE DERIVED. TOTAL NUMBER OF PEDESTRIANS, 1,731.



## SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108-5863

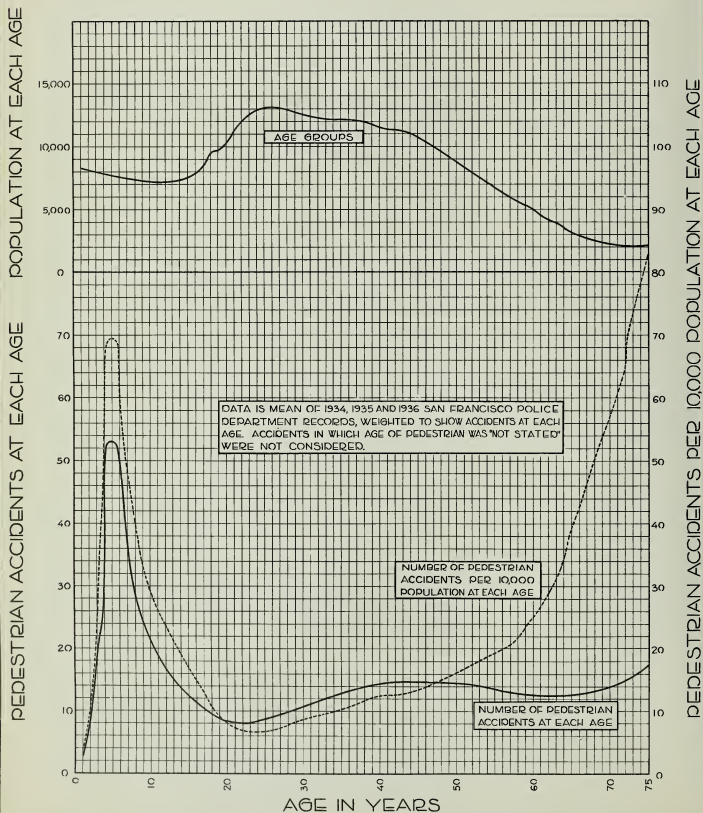
ACCIDENT ANALYSIS  
PEDESTRIANS-AGE GROUPSPREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN DIRECTORBY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

TABLE 173

TEN INTERSECTIONS WITH HIGHEST ACCIDENT FREQUENCY  
DURING 1936

<i>Intersection</i>	NUMBER OF ACCIDENTS				<i>Total</i>	<i>Ints. Flow</i>
	<i>Injury Peds. Others</i>	<i>Fatal- ity</i>	<i>Prop. Dam.</i>			
1. Market - Ellis - Stockton - Fourth..	19	2	0	17	38	25,307
2. Market - Geary - Kearny - Third....	25	0	0	9	34	21,156
3. Market - Post - Montgomery - New Montgomery .....	19	1	0	9	29	21,125
4. Market-Golden Gate-Taylor-Sixth	14	4	0	11	29	23,502
5. Van Ness - Turk.....	7	2	0	14	21	23,668
6. Sutter - Powell.....	6	3	0	10	19	12,717
7. Market - Fell - Polk - Tenth.....	6	5	1	6	18	26,037
8. Van Ness - O'Farrell.....	5	2	0	7	14	21,318
9. Market - Fifteenth - Sanchez.....	3	2	0	8	13	19,212
10. Valencia - Sixteenth.....	5	3	0	4	12	14,849

All of the above intersections are of special interest inasmuch as they were outstanding intersections of accident frequency during the year 1936. Each of these intersections has been given special attention by the Survey and the physical conditions, traffic conditions, together with the types of accidents, have been analyzed with the view of arriving at the predominant causes of accidents at each of these locations in order that recommendations may be drawn to the end that such causes may be lessened.

*Proposed Future Uses of Accident Records*

While the above analysis of accidents has been useful to the Survey in designating general recommendations, the conclusion is inescapable that all future traffic work must be studied in relation to accident occurrence. It is therefore obvious that the police should continue to make full and complete reports of every accident regardless of the extent of injury or damage incurred. Every accident, regardless of its severity, is potentially a serious matter. Unless there is a complete reporting of all accidents there can be no completely satisfactory basis for guiding traffic work. With a full and thorough system of accident reporting, the following uses of such accident records are proposed:

1. In order that the efforts which are expended toward accident reduction may be intelligently directed, the accident records should serve as a basis for locating accident prone intersections, accident prone streets and accident prone areas. The frequency of accidents

moreover will furnish comparison of the relative seriousness of each location. The direction of effort may be correlated with the seriousness of each location.

2. The accident records should serve as a basis for designing proper remedial measures for accident prone intersections, accident prone streets and accident prone areas. The accident records should further serve as a measure for determining the effectiveness of effort and regulations which have been installed by comparing the accident occurrence records before with the accident occurrence records after such measures have been installed. The accident records should serve as a basis for designing through stop streets. They should be studied in connection with signal programs and other regulatory safety equipment.

3. Accident records are especially helpful in studying accident prone locations inasmuch as they indicate predominant causes of accident occurrence and furnish a suggestion as to steps which may be taken toward the elimination of such causes, and thereby consequent reduction of accidents.

4. Accident records should be studied not only on a city-wide basis, but with reference to the particular accident prone location areas and with respect to the time of accident occurrence, in order that police effort and equipment will be used in a manner proportionate to frequency of accident occurrence at different times. For example, continuing study should be made to the end that the apprehension of violators will be greatest during the hours of the day, the days of the week and the months of the year when accident occurrence is found to be most frequent. The accident records will furnish an intelligent basis for the placing of police patrol and post-duty details. "Selective Enforcement" is the key toward maximum reduction of accidents through police effort. With limited police personnel it becomes especially important that the number available apply themselves at those *times* and *places* with particular regard to those *types* of violations most productive of accidents.

5. The names of persons involved in accidents, if kept on a cumulative record, should be an invaluable aid to the Police and the Court in weeding out accident prone drivers. The record of individual drivers should also form a basis for disciplinary action

by the State in connection with the suspension and revocation of drivers' licenses.

6. Furthermore, the public should be constantly informed of the accident record of the city. The use of spot maps at schools, the general distribution of knowledge regarding bad streets and special types of hazards should be carried to the public, for in the final analysis those officials who are charged with the problem of accident reduction can only reflect the public desire.

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Much additional data and other analyses of accident occurrence has been submitted with other data pertaining to the Survey and are now in the files of the City Engineer.





PACIFIC OCEAN

# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## FATALITIES & PERSONAL INJURIES

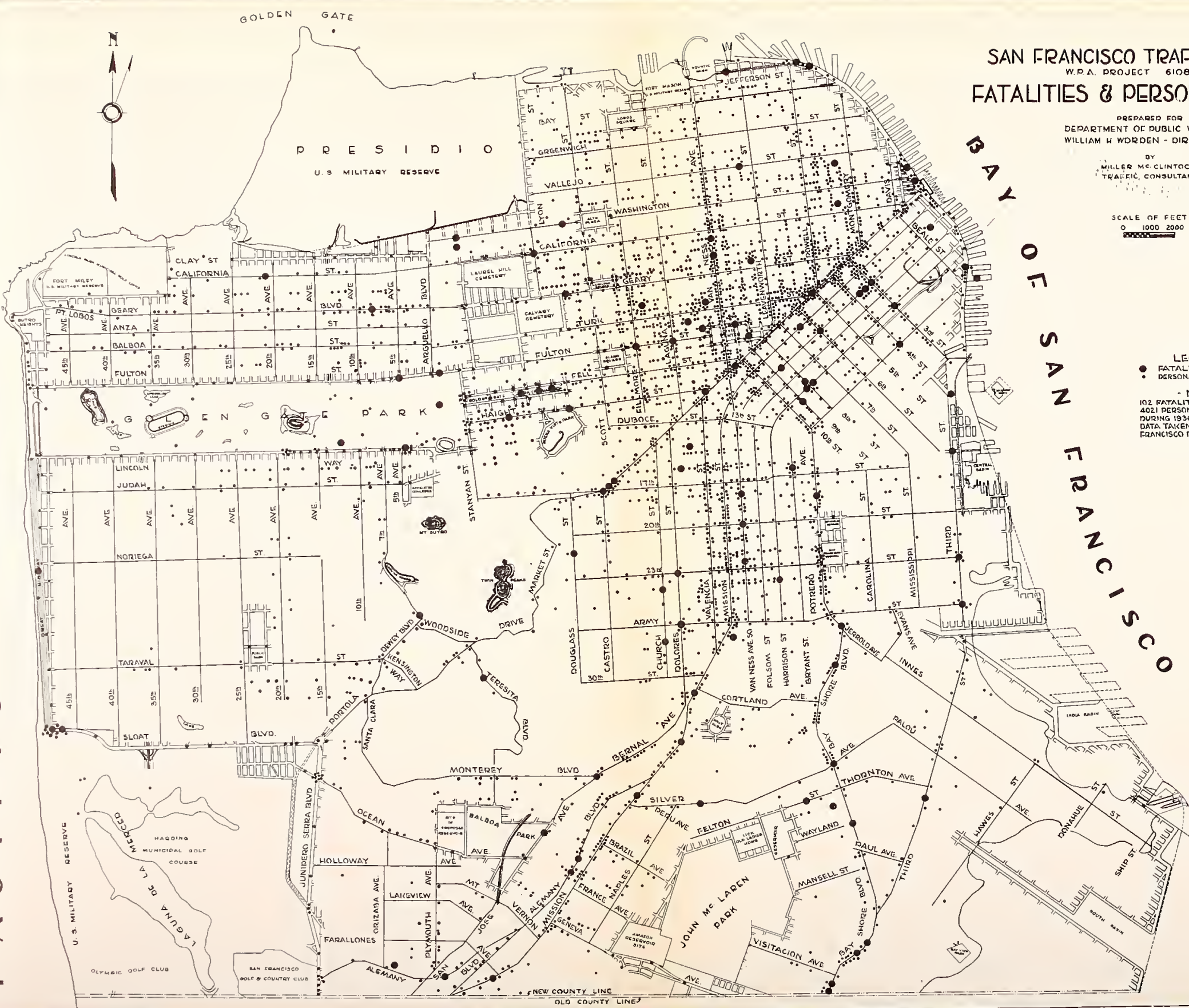
PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE OF FEET  
0 1000 2000

LEGEND  
● FATALITY  
● PERSONAL INJURY ACCIDENTS

NOTES -  
102 FATALITIES DURING 1936.  
4021 PERSONAL INJURY ACCIDENTS  
DURING 1936.  
DATA TAKEN FROM THE SAN  
FRANCISCO POLICE DEPT. RECORDS







PACIFIC OCEAN

GOLDEN GATE

PRESIDIO

U. S. MILITARY RESERVE

# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## "WORST CORNERS"

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

### NOTE

○ REPRESENTS "WORST CORNERS"  
FIGURE WITHIN CIRCLE REPRESENTS THE  
NUMBER OF ACCIDENTS THAT HAVE OCCURRED AT "WORST CORNERS" DURING 1934, 1935 AND 1936. PROPERTY DAMAGE ACCIDENTS BELOW FIFTY DOLLARS ARE NOT INCLUDED IN FIGURES SHOWN.  
ONLY INTERSECTIONS HAVING A TOTAL OF FIFTEEN OR MORE ACCIDENTS DURING 1934, 1935 AND 1936 ARE SHOWN.  
EACH DOT ON CIRCUMFERENCE OF "WORST CORNER" DENOTES A FATALITY.



NEW COUNTY LINE  
OLD COUNTY LINE



## CHAPTER VIII

### PARKING AND TERMINAL FACILITIES

The ends of traffic and transportation are never accomplished by movement alone. Just as ships require wharves and docks—just as trains require depots and terminals—motor vehicles require parking and loading facilities.

The problem of parking vehicles in existing street areas is one of a most controversial character. It is complicated because it involves so many apparent conflicts of interest. An operator driving over a congested route is anxious that there be no parking at the curb, but once he arrives at his destination he resents restrictions upon his privilege to leave his vehicle parked at the curb while he transacts his business. Moreover, there is a growing demand for abutting property owners to have a prior right to the use of the curb in front of their establishments, for parking purposes—and police are frequently requested to see to it that the interests of abutting property owners are served before other members of the public.

Business organizations particularly, are confronted with the problem of parking. While they desire on the one hand the control of parking, which would make it possible for customers to come to their place of business with a minimum of inconvenience, they look with disfavor upon the restrictions of parking in front of their establishments.

Even casual observation and experience leads to the conclusion that curbs are inadequate to accommodate parking requirements in the more highly developed business districts and especially in the control area. Furthermore, it must be recognized that *curb parking is a secondary type of street use and must give way to the primary use of movement, wherever the two uses come into serious conflict*. These conflicts have already resulted in progressive reduction of curb parking capacity and the future will show further reduction.

#### *Curb Parking Capacities*

In order that facts may be available as to the capacity and present regulation of such capacity in the central parking area, the Survey undertook a thorough inventory of all streets in the Central Business District,



and those streets within the area immediately adjacent to this district. See figure 185. A study of curb parking in this district shows a large variety of regulations, ranging from no regulations whatever, to the absolute prohibition of parking at certain points at all times.

Three predominant types of time limit restrictions are found. An analytical summary of the curb parking facilities and regulations in the Central Business District Parking Area, is set forth in Figure 187. The total linear curb space in this central parking area is 260,597 feet. Of this amount, 84,058 feet is the curb space to be found in alleys. Assuming no regulations whatever, and allowing eighteen feet per parked car, there is a physical parking capacity in this district for 14,477 vehicles. At present there are numerous legal restrictions as shown in Figure 187, so that the total number of vehicles that may legally park varies throughout the day, from approximately 6,400 to 8,265. Hence the present prohibition of parking in the central parking area, reduces the total physical capacity by over one-half. In slightly more than thirteen per cent of all curb space, the stopping of vehicles is prohibited at all times. In an additional quarter of the total space, no parking is permitted day or night at any time. Of the remaining area, where parking is permitted, special zones for loading purposes only, amounting to nearly eleven per cent of the total curb space in the district, have been set aside. In approximately three per cent of the total curb space, parking is permitted for a duration of twenty minutes only. In about fifteen per cent of the total curb space, forty minute parking is permitted, and in slightly more than twenty-one per cent of the total curb space, one hour parking is allowed. On the through marginal streets at the outer edges of the central business area, unlimited parking is permitted for the total curb length, amounting to slightly less than twelve per cent of all curb space in the area. Thus, it is seen that with the regulations in effect at the time of the Survey, parking was tolerated at only one-half of the curb area.

#### *Present Curb Parking Loads*

A thorough study was made of all parking within the central district. Each curb length was examined at twenty minute periodic intervals continuously throughout the day from 7 A. M. to 7 P. M. The resultant number of vehicles which were found to park during a typical week day in this district, during these hours, is set forth in Figure 187. Less than two thousand vehicles were found parked at the curb between seven and seven-thirty in the morning. This number grew rapidly until

saturation was approached between nine and nine-thirty in the morning, when the legal capacity of the curb was found to be exceeded—the rate of growth continuing as between seven A. M. and nine A. M. until nine-forty A. M.

The maximum number of vehicles, approaching eight thousand, was found at the curb throughout the business day—the peak being found at about two-thirty in the afternoon. Shortly after four o'clock there was a shrinkage in the number of vehicles parked at the curb, so that by about five-thirty in the afternoon, the total number found did not exceed the legal limit.

The manner in which this load was distributed throughout the area is set forth in Figure 189. This also shows not only the load in each block, but also the amount of parking load in excess of the legal limits. With relatively few exceptions, nearly every block in the Central Business District was found to carry a sizeable amount of parking load in excess of the legal capacity; whereas, those block lengths at the margin of the Central Business District, were usually found to have a legal capacity in excess of the parking load.

### *Parking Practice*

A special analysis was made of the parking practices of motorists with respect to the different time limit regulations. The results of this study are graphically set forth in Figure 191. Under present practice, it is apparent that parking time limits mean nothing to the motorist. Thus, in the "no-parking" area, the twenty-minute parking area, the forty-minute parking area, and sixty-minute parking area, the duration of parking was found to be practically identical. In each of these areas it was found that from seventy to eighty per cent of the total number of vehicles, were parked less than one hour. Even in the small sections where no parking limitations were imposed, fifty-three per cent of the vehicles parked for less than one hour. In this no limit parking area, however, there was an excessive parking load of from eight to ten hours duration. A trace of this long time parking load is also evident in the sixty-minute parking area. Hence, it can be concluded that parking regulations have had little effect on the parking habits of motorists in the central area.

At this point, attention is called to Chapter IX, wherein will be found the facts which pertain to the enforcement effort now being given

by the Police Department to the end that motorists conform with parking regulations. The large bulk of apprehensions made for parking violations and the slight effect apparent from this police effort, shows the inability of the police and court system to cope with the demand for parking, and the regulations of such demand in the central parking area.

### *Off-Street Parking Facilities*

It is evident from the above facts, that the curbs are entirely inadequate to accommodate the terminal problem of motor vehicle operation in the central parking area.

Accordingly, the attention of the survey was directed to off street parking facilities, lying within this central parking area. A summary of this study is set forth in Figure 193. It was found that a maximum approaching fifteen thousand vehicles could be parked in this area, in garages and in lots at any one time. Parking lots develop a total capacity of only thirty-five hundred vehicles, and it is thus seen that the garage capacity was over three times that of the lot capacity. This is rather an unusual ratio and shows, that due to the density of the central district in San Francisco, garage construction has been required. The minimum demolition of buildings during the recent depression for parking lot purposes is evident.

A study of the distribution of this off street parking throughout the area shows the rather usual lack of garage space in the heart of the central district, especially in the retail area. Practically no off street parking facilities exist at the present time in the triangle district bounded by Mason Street on the west, Sutter Street on the north, and Market Street on the south. On the other hand, the development of garage space in the larger buildings within the financial district is encouraging.

It is believed, that in the future, the practice of providing parking facilities within structures will increase, and in view of the conditions which have been found, the Survey earnestly recommends that all new construction within the central district should have provision for parking facilities adequate at least to accommodate the parking load incidental to the business for which such structures are designed.



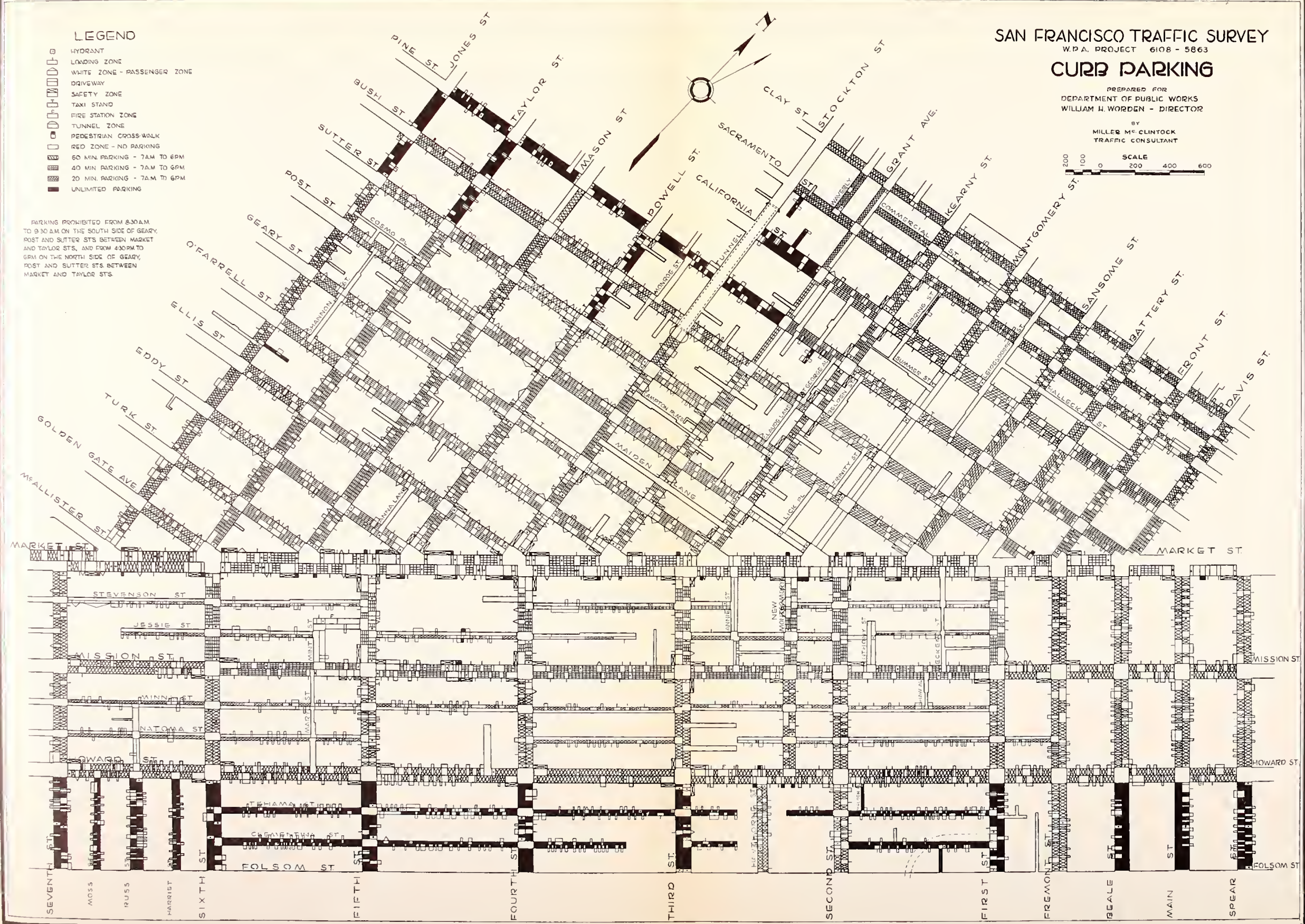
LEGEND

- HYDRANT
- LOADING ZONE
- WHITE ZONE - PASSENGER ZONE
- DRIVEWAY
- SAFETY ZONE
- TAXI STAND
- FIRE STATION ZONE
- TUNNEL ZONE
- PEDESTRIAN CROSSWALK
- RED ZONE - NO PARKING
- 60 MIN. PARKING - 7AM TO 6PM
- 40 MIN. PARKING - 7AM TO 6PM
- 20 MIN. PARKING - 7AM TO 6PM
- UNLIMITED PARKING

PARKING PROHIBITED FROM 8:30AM TO 9:30AM ON THE SOUTH SIDE OF GEARY, POST AND SUTTER STS BETWEEN MARKET AND TAYLOR STS, AND FROM 4:30PM TO 6PM ON THE NORTH SIDE OF GEARY, POST AND SUTTER STS BETWEEN MARKET AND TAYLOR STS.

SAN FRANCISCO TRAFFIC SURVEY  
W.P.A. PROJECT 6108 - 5863  
**CURB PARKING**

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR  
BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT







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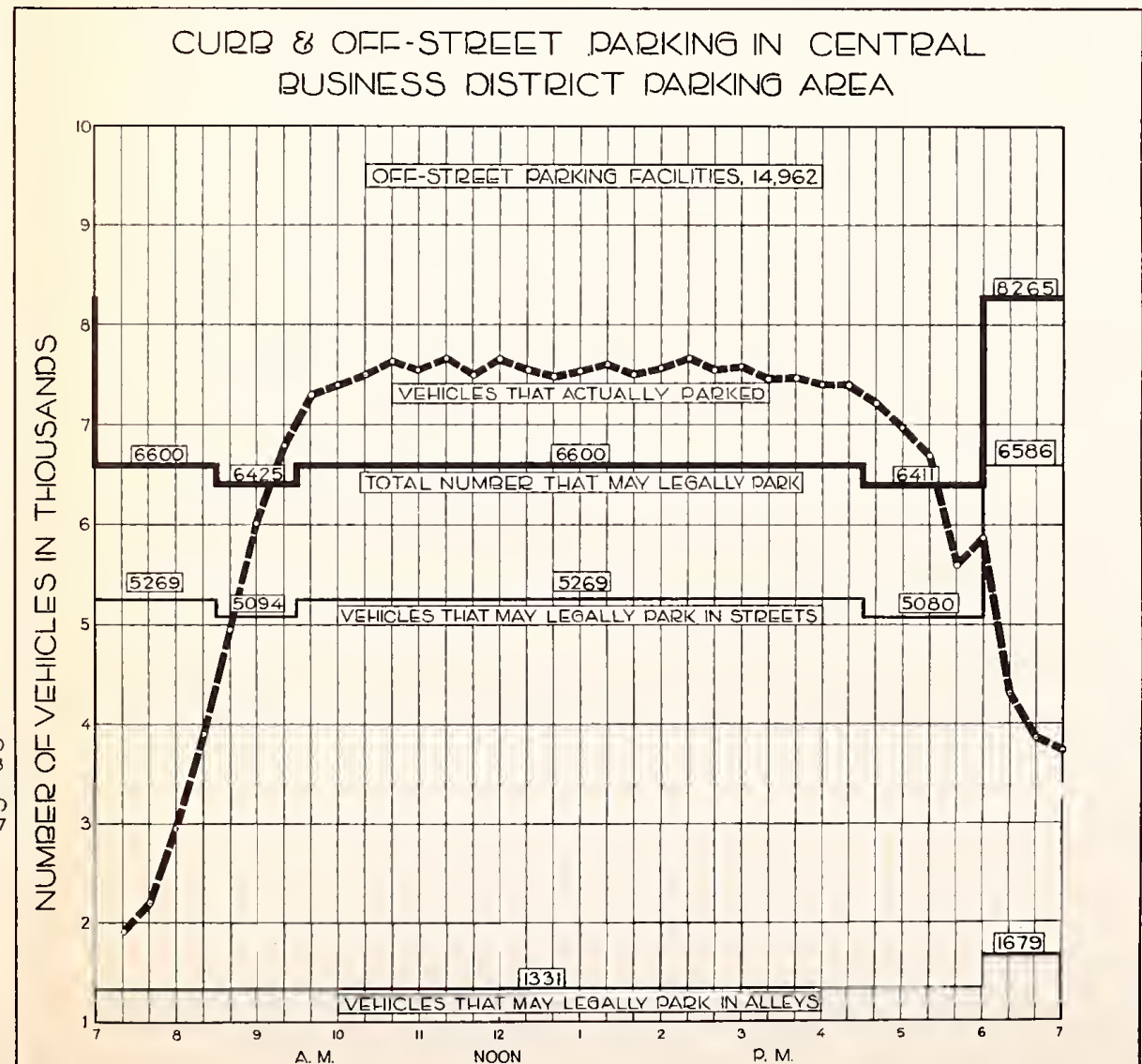
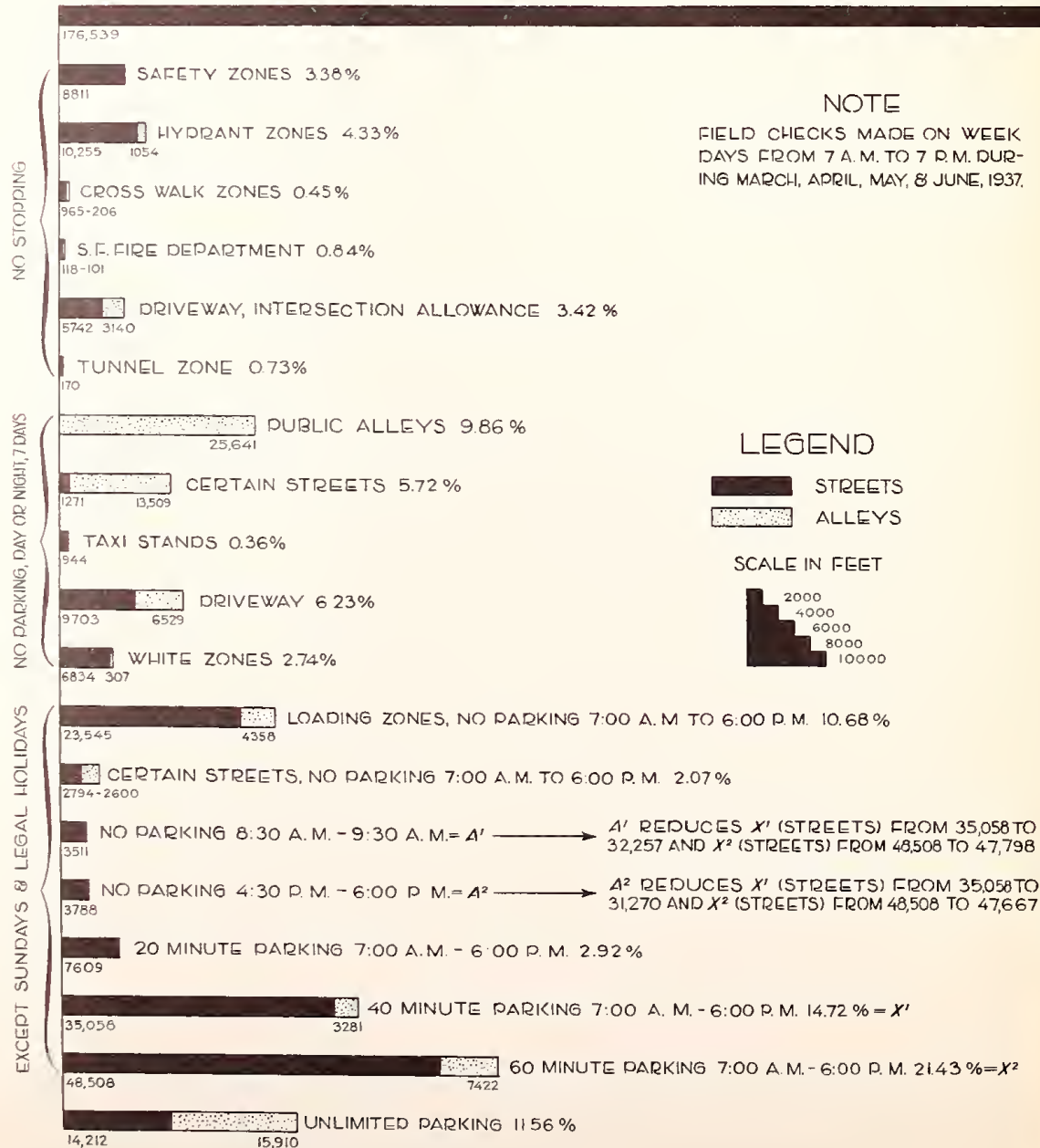
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## CENTRAL BUSINESS DISTRICT PARKING AREA

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

### LINEAR FEET OF PARKING SPACE IN DOWNTOWN AREA







## NOTES

PARKING PROHIBITED FROM 8:30 A.M. TO 9:30 A.M. ON SOUTH SIDE OF GEARY, POST & SUTTER STS. BETWEEN MARKET ST & TAYLOR ST. AND FROM 4:30 P.M. TO 6:00 P.M. ON THE NORTH SIDE OF GEARY, POST & SUTTER STS. BETWEEN MARKET STREET AND TAYLOR STREET

## LEGEND

- A = EXISTING PARKING LOAD
   
 B = LEGAL PARKING LOAD

621 CAR HOURS, LEGAL PARKING LOAD FROM 7 A.M. TO 7 P.M.

CAR HOURS, ACTUAL PARKING LOAD FROM 7 A.M. - 7 P.M. FOUND BY FIELD CHECK MADE DURING MAY & JUNE, 1937.

SCALE  
CAR HOURS



# SAN FRANCISCO TRAFFIC SURVEY

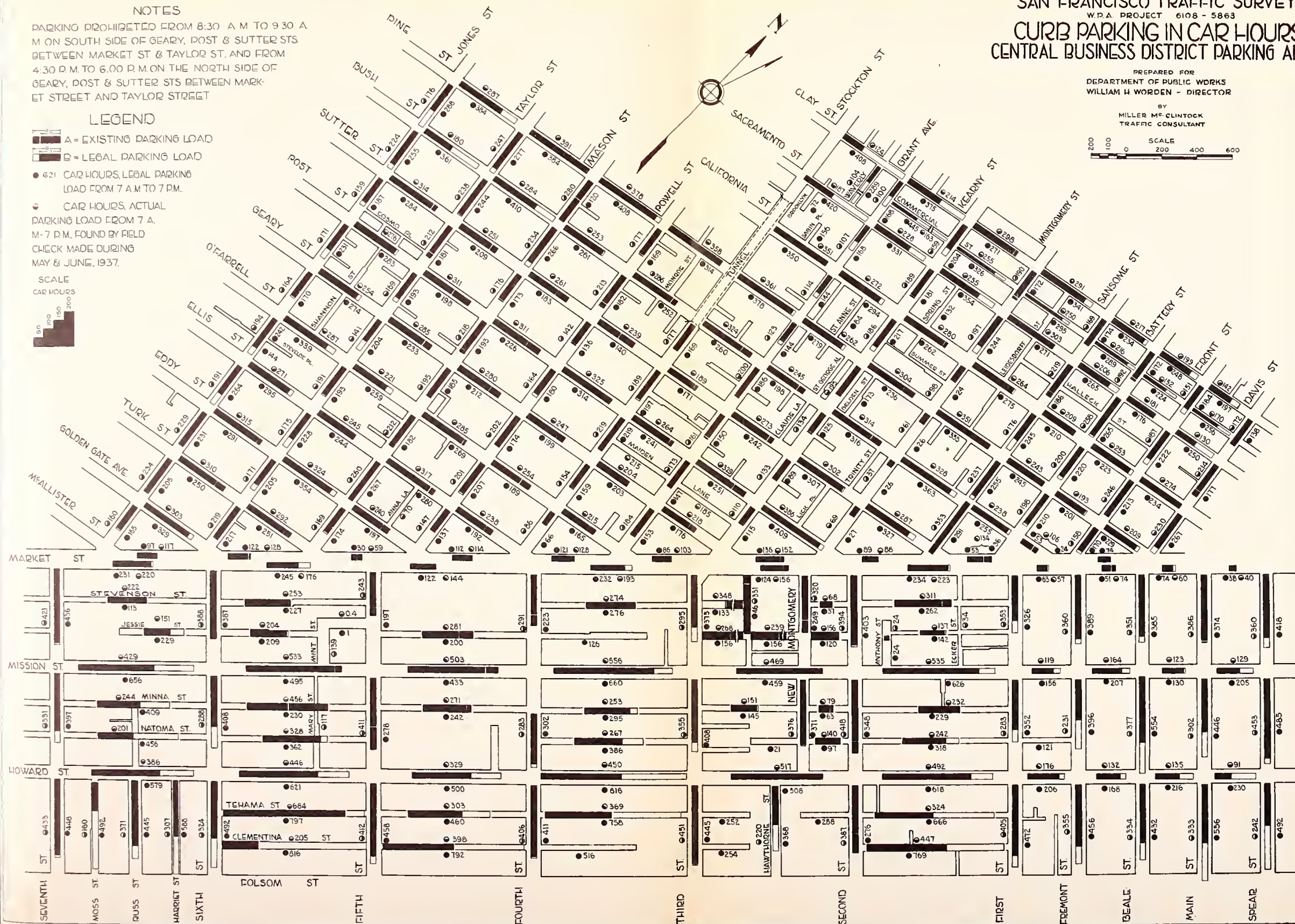
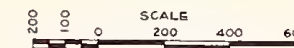
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## CURB PARKING IN CAR HOURS

### CENTRAL BUSINESS DISTRICT PARKING AREA

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WILLIAM H. WORDEN - DIRECTOR

BY  
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## SAN FRANCISCO TRAFFIC SURVEY

W.R.A. PROJECT 6108 5863

# PARKING PRACTICE

IN

## CENTRAL BUSINESS DISTRICT

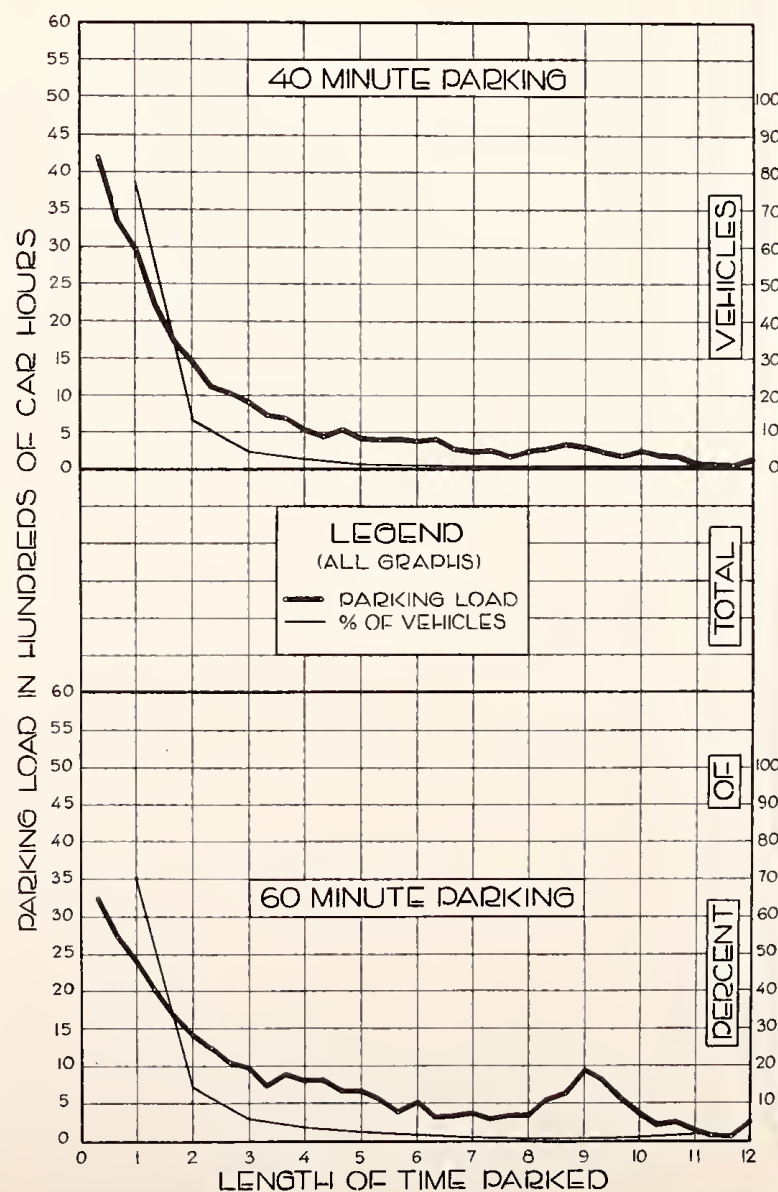
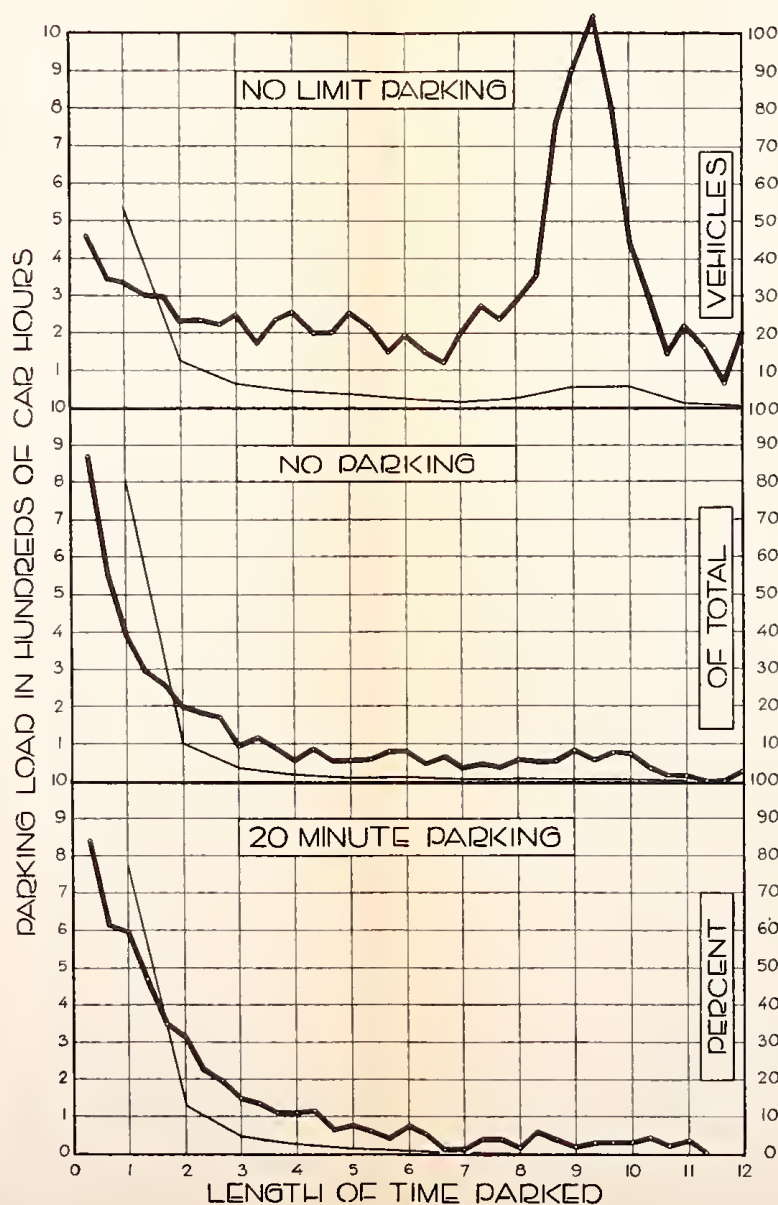
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WILLIAM H. WORDEN DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

FIELD CHECKS MADE ON WEEK DAYS  
FROM 7 A. M. TO 7 P. M. DURING JUNE, 1937

LENGTH OF TIME VEHICLES PARKED	PARKING ZONE				
	20 MINUTE	40 MINUTE	60 MINUTE	NO PARKING	NO LIMIT
0" TO 20"	47.4 %	47.5 %	42.4 %	55.3 %	32.8 %
20" TO 40"	19.3 "	18.8 "	17.7 "	17.6 "	12.3 "
40" TO 60"	11.2 "	11.0 "	10.4 "	8.4 "	8.3 "
0 HR. TO 1 HR.	77.9 "	77.3 "	70.5 "	81.3 "	53.4 "
1 " TO 2 "	13.4 "	12.9 "	14.0 "	10.1 "	12.4 "
2 " TO 3 "	4.1 "	4.4 "	5.5 "	3.6 "	6.3 "
3 " TO 4 "	1.83 "	2.13 "	2.95 "	1.5 "	4.3 "
4 " TO 5 "	1.2 "	1.1 "	2.06 "	.9 "	3.6 "
5 " TO 6 "	.54 "	.72 "	1.14 "	.8 "	2.3 "
6 " TO 7 "	.23 "	.44 "	.67 "	.47 "	1.6 "
7 " TO 8 "	.23 "	.29 "	.55 "	.38 "	2.4 "
8 " TO 9 "	.23 "	.34 "	1.40 "	.46 "	5.5 "
9 " TO 10 "	.17 "	.22 "	.83 "	.46 "	5.8 "
10 " TO 11 "	.17 "	.11 "	.26 "	.02 "	1.5 "
11 " TO 12 "	0.00 "	.05 "	.14 "	.01 "	.9 "
TOTAL	100 %	100 %	100 %	100 %	100 %

TABLE OF VALUES







# SAN FRANCISCO TRAFFIC SURVEY

## OFF STREET PARKING

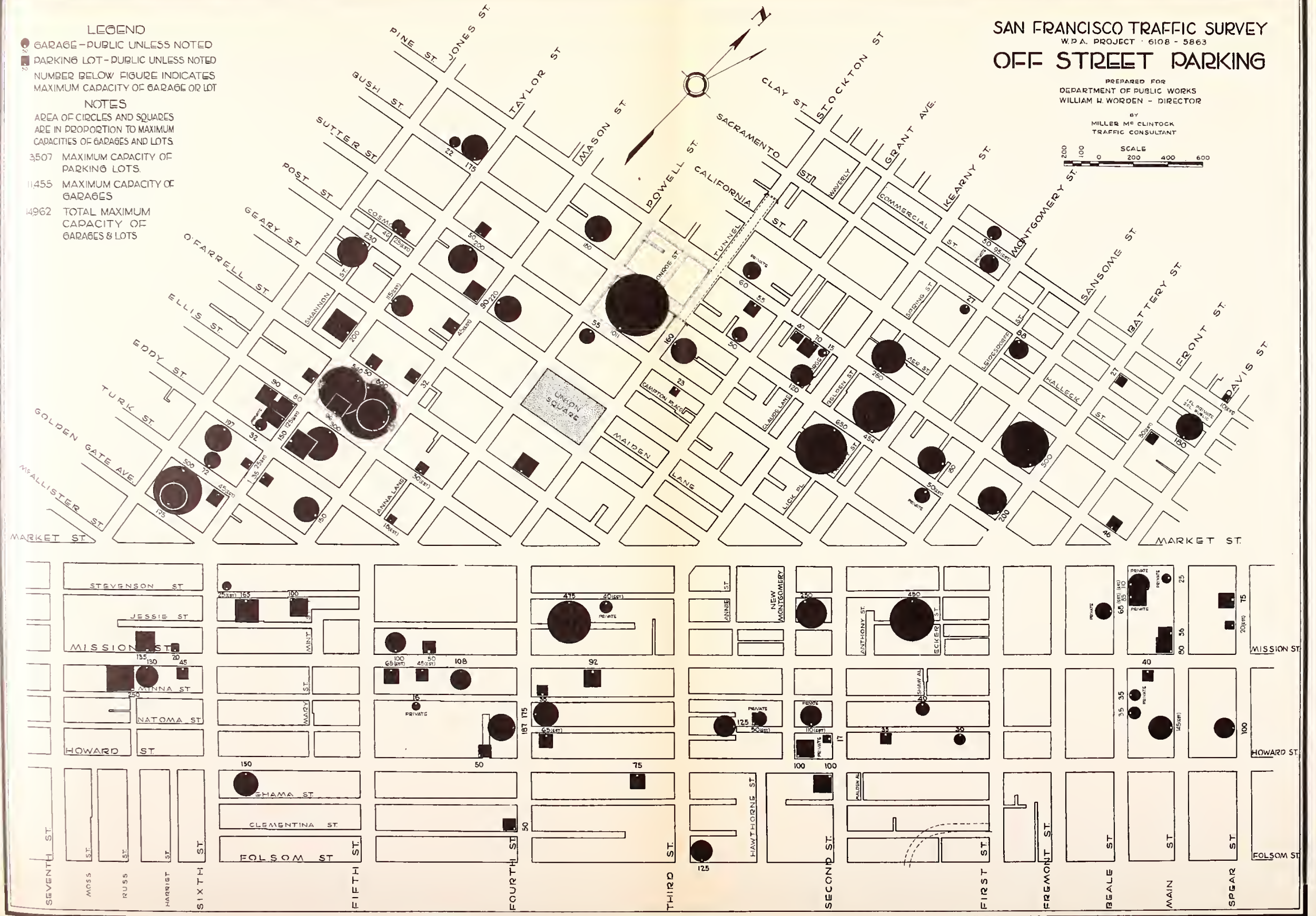
W.P.A. PROJECT 6108 - 5863  
 PREPARED FOR  
 DEPARTMENT OF PUBLIC WORKS  
 WILLIAM W. WORDEN - DIRECTOR

BY  
 MILLER MCCLINTOCK  
 TRAFFIC CONSULTANT



- LEGEND**
- GARAGE - PUBLIC UNLESS NOTED
  - PARKING LOT - PUBLIC UNLESS NOTED
  - NUMBER BELOW FIGURE INDICATES MAXIMUM CAPACITY OF GARAGE OR LOT

- NOTES**
- AREA OF CIRCLES AND SQUARES ARE IN PROPORTION TO MAXIMUM CAPACITIES OF GARAGES AND LOTS
  - 3507 MAXIMUM CAPACITY OF PARKING LOTS
  - 11455 MAXIMUM CAPACITY OF GARAGES
  - 14962 TOTAL MAXIMUM CAPACITY OF GARAGES & LOTS





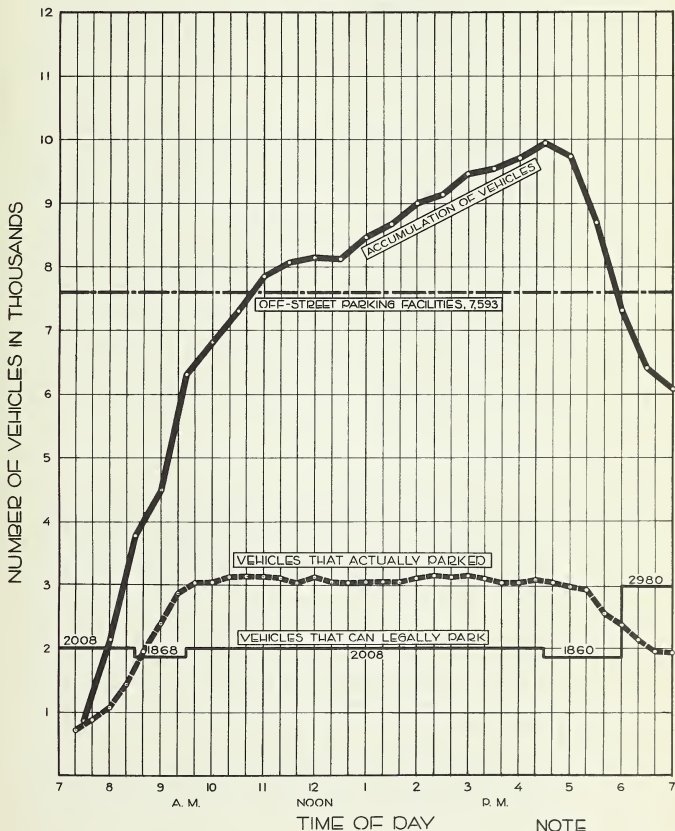
# SAN FRANCISCO TRAFFIC SURVEY

## PARKING IN CENTRAL BUSINESS DISTRICT

W. P. A. PROJECT 6108-5863

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



NOTE  
FIELD CHECKS MADE ON WEEK  
DAYS FROM 7 A.M. TO 7 P.M. DURING  
MARCH, APRIL, MAY & JUNE, 1937.

*Parking Saturation in the Central Business District*

Within the Central Business District where the parking load is acute, a special analysis has been made with reference to the accumulation of vehicles within this district as compared with the parking facilities.

The results of this study are graphically set forth in Figure 195. The accumulation of vehicles set forth is the same as that found through the cordon count previously described. The number of vehicles which were actually parked at the curb in the central district for which the cordon was taken is also shown amounting to more than three thousand, during the business day—over one thousand of which are illegally parked. With three thousand vehicles stationed at the curb during the day, and with the accumulation of vehicles mounting to nearly ten thousand within this district, the difference (except for those vehicles actually moving in the street) must be absorbed by off street facilities. This difference would indicate that the off street parking facilities at the present time, in the Central Business District, are saturated particularly during the late afternoon period, so that anyone wishing to transact business in the Central Business District would be forced to either park his vehicle illegally, or park it outside of the district. a

*Conclusion*

In view of the existing parking facilities and the existing parking loads—in view of the volume of traffic moving over the streets within the central district—and—in view of the sluggishness with which these traffic streams move, it is concluded by the Survey, that any attempt to relieve parking conditions by regulation can only be palliative in character. There must be an increasing tendency toward further prohibition of parking at the curb, and the recent ordinance passed, with reference to parking in the central district, is but a step in the right direction. This legislation prohibits parking during the morning rush period from 8:00 A. M. to 9:30 A. M., and during the afternoon period from 4:30 P. M. to 6:00 P. M., with prohibition throughout the day on Market Street.

With the adoption of such regulations, however, and until such time as additional off street facilities are created, the police are confronted with the problem of enforcing the law, which requires motorists



to park outside of the district, inasmuch as present facilities within the district appear to be saturated. The lack of adequate facilities within the retail area supports the advisability of the current proposal to develop a parking area under Union Square, which is ideally located in the central retail area. In most American cities, private enterprise and capital have been quick to realize the demand for off street parking facilities, and have usually supplied an adequate capacity.

It is recommended, therefore, the attention of such private enterprise be turned toward the furnishing of the supply, to meet present demands where needed in the Central Business District. Those public authorities charged with responsibility of the care and management of Union Square should, through franchise or other methods, encourage the development of private or quasi-public action undertaken for the full utilization of this ideally located area for parking purposes. Naturally the present amenities of this park should be preserved on the surface, and a suitable sub-structure should be created. In view of the present congestion of traffic arteries in the vicinity of the Square, consideration should be given toward the creation of depressed limited way distribution from this focal point.

All existing structures in the Central Business District—either individual or in conjunction with neighboring structures—should possess adequate off street loading facilities, particularly for the receiving and shipping of merchandise.

Larger buildings within the district should not look to the police and the curbs abutting their property for the handling of their parking load. Rather, they should undertake steps for the creation of vehicle terminal facilities within such structures—which facilities should be adequate in size to accommodate their operations.

## CHAPTER IX

### LAW OBSERVANCE AND ENFORCEMENT

Traffic regulations and enforcement should be designed to secure the best possible use of the city's streets. Since traffic conditions and traffic needs change rapidly and continuously, the problem of traffic control cannot be perfectly nor permanently solved.

The purpose of the present Survey has been to find and propose the best solution practicable under existing conditions. The data presented throughout this report, and the recommendations made, are directed to that end.

Any solution or plan of traffic control adopted can become effective only when it is given expression as a set of rules and regulations, which constitute the traffic law of the City. The carrying out of the plan can be greatly facilitated, as is shown elsewhere in this report, by good engineering and by such aids as signals and other mechanical devices; but the plan itself must be comprised within the traffic law, and it can and will attain its object only as its provisions, as expressed in that law, are *enforceable and enforced*.

#### *Enforceable Traffic Law*

To be enforceable, it is essential that the rules and regulations that make up the traffic law shall have certain characteristics. They must, for instance—

- Be simple, clear and explicit, both in language and in requirement.

- Be obviously aimed at safety, public convenience, the general good.

- Be reasonable, and meet actual needs.

- Conflict as little as possible with community habits and usage.

- Be comprehensive, covering those types of traffic situations where directive control is required.

- Respect the innate common sense of the public, whose respect and acceptance the law itself must merit.

Be flexible, and readily changeable under changed conditions and indication of the public will.

Be consistent.

Be brief, and as few in number as possible.

Be in conformity, as far as advisable, with practices that are uniform or tending to uniformity in State and Nation.

In general the present traffic ordinance of San Francisco conforms to these principles, though a textual revision for greater simplicity and clarity would be desirable. The text, in convenient form, should always be available to the public.

### *Traffic Law Enforcement*

The success of a city's plan of traffic control can be no greater than the success of its traffic law; and both are measured by the effectiveness of the law's enforcement.

Effectiveness of traffic law enforcement can be had only through the coordinated functioning of three agencies: public good will, the traffic police, and the courts.

Public good will is at once the most potent factor in traffic law enforcement, and the easiest to obtain.

The decisive test in traffic law enforcement is this: That the objective aimed at and the means proposed must appeal to the common sense of the public. No phase of traffic control that fails in this test can hope for success. San Francisco is, unfortunately, witnessing a demonstration of this truth at the present time.

The parking problem of a city is a part of traffic control that is never, under any aspect, an easy one to handle. At its best, when the attempts at its regulation have the support of public good will, it is viewed by the community as a sort of humorous battleground, the scene of good-natured jousts between the traffic police and themselves, in which common sense and fair play on both sides fix the rules of battle, and "tags" are given and accepted with a friendly, if rueful, grin.

Such was the situation in San Francisco in former years, when control of the problem was in the hands of the Traffic Bureau of the Police Department, and the objectives sought in its handling were recognized

by the community as the proper ends of enforcement—safety, public convenience, the general good.

About two years ago, however, “enforcement for revenue” made its appearance in the city. Making a claim that much money was being lost through “fixing” of “tags” (arrest citations) issued for parking violations, a plan was devised in the City Controller’s office whereby not only were the fiscal details of the “tag” system brought under the immediate jurisdiction of the Controller, as was both desirable and proper, but also all regulation of the entire “tag” system was taken from the Traffic Bureau of the Police Department, where it belonged, and placed in the Controller’s office, where it does not belong.

Two years of operation have proved the plan a failure, even as a revenue producer. The good and the bad of it are considered elsewhere in this Chapter; here the point to be emphasized is the harm it has done in connection with the parking problem.

By introducing the idea of “enforcement for revenue” the good will of the public has been temporarily lost; the parking situation no longer has a humorous aspect; the “tags” formerly accepted in a sporting spirit are now defiantly rejected as technically without legal status—although that status is not changed by an iota from what it was two years ago; and the police, who had no part in the devising of the new system, can only carry on under the handicap of its regulations and defects until the control over their work that properly belongs in their hands is restored to them, and the confidence of the public in the objectives of enforcement is regained. This restoration is in substance the recommendation made by Controller Leavy and his associates: “When tabulating machines are made available to the Records Division of the Police Department, the records maintained by the Fines Bureau should be coordinated with similar records maintained by the Police Department and the Police Department required to submit quarterly reports to the Controller.”<sup>1</sup>

### *The Traffic Police*

In every modern city, enforcement of the traffic law is placed in the hands of a special force or bureau set up within the police department and known as the traffic police.

The duties of this force have very little resemblance to the customary duties of the regular police. Mention of but two points of differ-

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<sup>1</sup> From “Summary of Survey and Report on the San Francisco Police Department,” 1937.

ence will suffice to indicate how far apart their spheres of action lie. In the first place, foremost among the objectives of the officer of the regular force is the detection and capture of criminals; with this phase of police work, on the contrary, the traffic officer has little to do. Again, the officer of the regular force has very little immediate contact with the members of the community to whose welfare his service is given, while just such personal contact with the public is the most striking characteristic of the traffic officer's work.

Too much emphasis cannot be placed on the basic principle that the only proper objectives of the work of the traffic police are safety, public convenience, the general good.

#### *Functions of the Traffic Police*

Holding to these objectives, the principal functions of the traffic police fall under three heads: directive, preventive, punitive.

Their directive and preventive services are closely allied and of primary importance. Upon the efficient carrying on of these services depends the community's success in reducing the number and seriousness of traffic accidents and maintaining free flow of traffic. The training and skill of the traffic police can be measured by the prevention, rather than by the adjustment of traffic snarls and conflicts in traffic movements, particularly between pedestrians and vehicles, that result in so many accidents.

The punitive function of the traffic police, while the least of their primary services, is nevertheless necessary and important, for unfortunately there will always be in a community a relatively small number of persons who, through gross negligence or by evil habit, fail in due regard for the rights and safety of others. Such persons, when behind the wheel of a motor vehicle, become a dangerous public menace upon which the hand of the law must fall, lightly or heavily, in restraint. Unless the traffic police act against these persons vigorously, the hazard they create will take a serious toll. It is against violators of this type that the officer holds in reserve the power of arrest; and against them he should use that power unhesitatingly and firmly.

#### *Scope of Traffic Police Functions*

The traffic law—the rules and regulations which the traffic police are to uphold—touches the community more directly, more intimately



and more universally than any other law or code of laws; and the scope of traffic police functions is coextensive with the field of the traffic law.

The provisions of the traffic law apply immediately to every person who goes upon the streets of the city. They are aimed to secure his safety, to facilitate his progress, to serve his convenience. They direct his movements, regulate his behavior, affect the conduct of his business. They define his rights, and correlate them with the rights of others. They limit his freedom, and place restrictions on his liberties, subordinating them to the common good. They ask him to yield where they cannot compel, to concede where they cannot legally take, to give up something of his inalienable rights in the interest of safety, even in behalf of public convenience.

With most of the city's population upon the streets day by day, in direct and personal contact at every turn with the city's traffic law and with the traffic police who enforce it, there can be no question that the law and the police must have the support of public good will, and that the working of both law and police can greatly influence the attitude of the community toward the officials who govern them.

#### *Selection and Training of Traffic Police*

The purposes and the nature of traffic control work make clear the necessity for careful selection and special training of the personnel of the traffic police force; and both selection and training should rest solely with the commanding officer of the force.

The idea that police of the regular force can be successfully detailed for the routine duties of the traffic police is as ill-founded as it is prevalent. It is based on failure to recognize the fact that the work of the two forces is unlike, and that the very qualifications that fit an officer for regular police work tend generally to unfit him for the work of the traffic squad.

For example, maintenance of the smooth flow of traffic at a busy intersection by personal direction is the commonest duty of the traffic police. Without special training and experience, the best officer of the regular force will be far from successful. The same holds true of many other phases of traffic work.

The traffic officer must have special and adequate training, under competent instructors, along the lines of all his highly specialized duties and requirements. This training should cover:

Traffic direction, both personal and by use of signal control apparatus.  
Recognition and elimination of accident hazards and causes.  
Investigation of traffic accidents.  
Emergency duties and unusual traffic conditions.  
Knowledge and understanding of local traffic law and state vehicle code.  
Technique of educating motorists and pedestrians.  
Treatment of non-local motorists.  
Dealing with the public.  
Gaining community good will, and directing it toward self-enforcement of the traffic law.  
Treatment of offenders of different types.  
Making of reports.  
Use of traffic data and records.  
Rules of evidence and court procedure.

A full course of instruction on such subjects should precede a new traffic officer's entry on active work, and his first duties should always be performed in the company of an older member of the force. Advanced instruction for all officers on active duty should be given at such intervals as the commanding officer may fix. Except for special purposes, no better instructors can ordinarily be found than some of the older and more experienced members of the force, whose knowledge of local problems and conditions is invaluable.

### *Administration and Organization*

Consideration of administration and organization of the work of traffic police derives value from its applicability to the circumstances of a particular city. The subject will therefore be treated here with specific reference to the situation and needs of San Francisco.

### *The San Francisco Traffic Police*

The Traffic Bureau of the San Francisco Police Department has done, and is doing, good work under difficult conditions. This situation reflects credit upon the commanding officer and upon the police who form the personnel of the Bureau. The conclusion is based upon a thorough study of existing activities with the fullest cooperation of Police Department executives.

In studying the conditions which make difficult the enforcement of traffic law and the prevention of accidents in San Francisco, no hindrance has been placed; and the aim has been to find remedies for those conditions, and to propose methods of facilitating and bettering the administration of traffic control.

### *Centralized Administration Essential*

The most fundamental condition that weakens traffic control and hampers accident prevention in the city has been found to be the limitation of the Traffic Bureau's administrative jurisdiction, and the restriction of the normal operations of the traffic police (exclusive of the motorcycle squad) to what may be considered the "downtown district." This territory is but slightly larger than the Central Traffic Zone, and comprises approximately one-fiftieth of the city's total area of forty-two square miles.

Outside this small territory, regulation of traffic, enforcement of traffic law and prevention of traffic accidents rest with the police of the fourteen district stations, under direction of their respective commanders.

This situation, from the traffic viewpoint, is very unsatisfactory. At its best it means traffic control throughout most of the city by untrained men following the ideas of fourteen commanders other than the head of the Traffic Bureau. At its worst it means little or no enforcement, and no betterment of the accident record.

This statement does not necessarily carry an imputation of lack of interest in the work to any of the company commanders. The evil is inherent in the division of administrative jurisdiction over a police function which should be unified, and is aggravated, as will be shown, by physical factors which the commanders cannot control.

The activity of the various district stations in regard to traffic law enforcement is indicated in Table 205, where the total number of all apprehensions for traffic violations is shown for each station, and on the basis of this total the weekly average of apprehensions for each officer.

The number of all arrests, both summary and by warrant, and the number of all citations, both to the Traffic Court and to the Fines Bureau, are given, as well as the gross total of arrests and citations and the average per officer per week. The table covers a period of eighteen

TABLE 205<sup>1</sup>  
 APPREHENSION FOR TRAFFIC LAW VIOLATIONS  
 SHOWING COMPANY TOTALS AND AVERAGES PER OFFICER PER WEEK  
 EIGHTEEN MONTHS, JANUARY, 1936, TO JUNE, 1937

	A	B	C	D	E	F	G	H	I	J	L	M	N	O	K
	<i>G o m p a n y</i>														
<i>1936: Jan.-June</i>															
Arrests .....	110	121	8	251	213	54	171	161	34	59	166	89	51	47	3,736
Citations .....	5,043	2,822	818	5,782	8,057	696	1,202	650	11	2,037	3,984	432	378	94	61,383
Total Apprehensions ..	5,153	2,943	826	6,033	8,270	750	1,373	811	45	2,096	4,150	521	429	141	65,119
Average per Officer per Week .....	2	1.4	0.5	2.4	3.5	0.5	1	0.5	0.05	1.8	3.2	0.5	0.4	0.08	16
<i>1936: July-Dec.</i>															
Arrests .....	124	135	9	231	182	62	108	133	17	49	138	421	56	54	3,570
Citations .....	7,028	2,706	745	5,527	11,177	1,250	846	339	47	3,514	3,959	2,109	485	139	69,281
Total Apprehensions ..	7,152	2,841	754	5,758	11,359	1,312	954	472	64	3,565	4,097	2,530	541	193	72,851
Average per Officer per Week .....	2.8	1.3	0.4	2.3	4.8	0.9	0.7	0.3	0.07	3	3.2	2.5	0.5	0.1	18
<i>1937: Jan.-June</i>															
Arrests .....	142	180	29	297	191	100	105	267	21	79	85	501	53	45	4,746
Citations .....	4,422	2,725	809	5,021	7,908	1,631	725	727	16	1,189	2,499	902	358	108	95,345
Total Apprehensions ..	4,564	2,905	838	5,318	8,099	1,731	830	994	37	1,268	2,564	1,403	408	153	100,091
Average per Officer per Week .....	1.8	1.4	0.5	2.1	3.4	1.2	0.6	0.7	0.04	1.1	2	1.4	0.3	0.09	25

<sup>1</sup>From records of San Francisco Police Department.

months, from January 1936 to June 1937; and for purposes of comparison this period has been divided into three terms of six months each. The stations are designated by their Company letters (A, B, C, etc.); and the Traffic Bureau (Company K) is also shown.

When it is remembered that approximately four out of every five citations issued are for parking offenses, and only one for a driving violation, it will be immediately apparent from Table 205 that there is a serious inefficiency in the enforcement of traffic law in the territory of many of the stations, and that it is a mistake to place the responsibility for that enforcement upon the shoulders of the district commanders.

TABLE 206<sup>1</sup>  
SHOWING AREA, STREET MILEAGE, POPULATION AND PERSONNEL  
OF DISTRICT POLICE STATIONS

<i>Co.</i>	<i>Station</i>	<i>Area Sq. Miles</i>	<i>Miles of Streets</i>	<i>1930 Population</i>	<i>Company Strength<sup>2</sup></i>
A	Central .....	1.28	31	79,300	99
B	Southern .....	1.83	34	22,500	83
C	Harbor .....	0.53	13	3,100	71
D	Mission .....	3.57	60	98,500	98
E	Ellis-Polk .....	1.66	41	82,700	91
F	Stanyan .....	1.89	33	38,200	55
G	Richmond .....	1.86	36	53,900	53
H	Ingleside .....	5.73	89	75,400	54
I	Potrero .....	2.18	21	10,000	35
J	North End .....	1.50	29	43,200	46
L	Western Addition .....	1.88	33	57,600	50
M	Bay View .....	5.00	33	25,900	39
N	Taraval .....	5.35	68	27,600	46
O	Golden Gate Park.....	7.01	32 <sup>3</sup>	16,500	66

<sup>1</sup>From "Summary of Survey and Report on the San Francisco Police Department,"  
by City Controller Leonard S. Leavy et al., 1937.

<sup>2</sup>Including radio patrol cars.

<sup>3</sup>Excluding 18 miles of roads within the Park.

Lest it be thought, however, that such deficiency of traffic control necessarily implies lack of concern on the part of the captains or men of the district stations, the following Table 206 is given to indicate practical difficulties that confront many captains who have a genuine desire for effective traffic law enforcement. Table 206 shows the area, the miles



of streets, the population, and the police personnel, of the respective district.<sup>1</sup>

The significance of Table 206 in its relation to traffic control and accident prevention is more apparent upon consideration that the company strength must be divided between three shifts. In the case of the nine stations with a force ranging from sixty-six to thirty-five men it is hardly possible for the commanding officer to have even a dozen officers available for street patrol on any one shift.

The direct bearing of this situation upon police work in connection with accidents may be seen from Table 207, which gives the number of drivers involved in personal injury accidents and property-damage-only accidents during the six months from September 1936, to February 1937, and the number of drivers arrested in connection with those same accidents.

TABLE 207<sup>1</sup>

DRIVERS INVOLVED, AND DRIVERS ARRESTED  
IN TRAFFIC ACCIDENTS

SAN FRANCISCO, SEPTEMBER, 1936—FEBRUARY, 1937

<i>Year</i>	<i>Month</i>	<i>Personal Injury Accidents</i>	<i>Property-Damage-Only Accidents</i>
		<i>Drivers Involved</i>	<i>Drivers Arrested</i>
1936—	September .....	237	17
	October .....	326	47
	November .....	342	31
	December .....	408	35
1937—	January .....	430	44
	February .....	329	36
TOTAL .....		2,072	210

<sup>1</sup>Data from records of San Francisco Police Department.

<sup>2</sup>Including only accidents with damage estimated above \$50.

The Survey is well aware that other factors enter into the situation presented by Table 207; but there can be no doubt that, if city-wide administration of traffic control and traffic law enforcement were centralized in the commander of the Traffic Bureau, effective means would be found to make a quite different record of arrests in accident cases throughout the city.

<sup>1</sup>The current closing of three district stations and consolidation of their territory and personnel with adjacent districts does not materially better conditions from the viewpoint of traffic control.

There are still other urgent reasons for this centralized control, with its concomitant authority to use the Traffic Bureau's specially trained officers and accident investigation squad whenever and wherever need arises. Table 207 points out that of every ten drivers involved in traffic accidents not more than one is arrested; it does not, however, indicate what proportion of drivers cause accidents by violations of traffic law.

To supply this information, therefore, Table 208 is presented. It is taken from the annual accident summaries issued by the police department, where it appears under the heading "Action of Driver: Viola-

TABLE 208<sup>1</sup>

DRIVERS CAUSING ACCIDENTS BY TRAFFIC LAW VIOLATIONS  
SAN FRANCISCO, 1934, 1935, 1936

<i>Action of Driver: Law Violations</i>	<i>Number of Drivers and Types of Accidents</i>			<i>Total</i>
	<i>Fatal</i>	<i>Pers. Infj.</i>	<i>P. D. Only<sup>2</sup></i>	
1. Exceeding the Speed Limit.....	7	117	59	183
2. On Wrong Side of Street.....	7	274	128	409
3. Did Not Have Right of Way.....	4	220	94	318
4. Cutting In .....	..	15	10	25
5. Passing Standing Street Car.....	..	2	...	2
6. Passing on Curve or Near Crest of Hill.....	..	1	1	2
7. Other Illegal Passing.....	1	44	15	60
8. Failing to Signal.....	..	25	9	34
9. Improper Turning .....	1	77	40	118
10. Failing to Stop at "Stop" Street.....	2	30	13	45
11. Disobeying Officer or Signal.....	1	44	18	63
12. Driving Off Roadway.....	2	58	24	84
13. Driving Into Safety Zone.....	..	20	3	23
14. Hitting Concrete Safety Zone.....	..	5	2	7
15. Hitting Button-type Safety Zone.....	1	18	1	20
16. Double or Other Prohibited Parking.....	..	45	16	61
17. Reckless Driving .....	101	1,392	542	2,035
18. Following Too Closely.....	1	238	76	315
19. Hitting Parked Car.....	..	118	214	332
20. Not Paying Attention.....	..	6	4	10
21. Hit-and-Run .....	31	413	223	667
22. Car Ran Away.....	7	125	196	328
Total: Violations 1-22.....	166	3,287	1,688	5,141
23. Action of Driver Not Stated.....	202	9,106	2,591	11,899
Total: Items 1-23.....	368	12,393	4,279	17,040

<sup>1</sup>From records of San Francisco Police Department.<sup>2</sup>Accidents involving property damage below \$50 not included.

tions." It gives the analysis, under this aspect, of 17,040 police reports of accidents occurring in the city during the past three years, and lists specific law violations by which 5,141 drivers caused 166 fatal accidents, 3,287 personal injury accidents, and 1,688 property-damage-only accidents involving damage in excess of fifty dollars. It is worthy of note that the action of the driver is "not stated" in 11,899 of these accident reports.

The situations shown in Tables 207 and 208 when placed side by side indicate clearly the futility of traffic control as administered under the present system of divided authority, without selective enforcement and without the services of officers trained for the work.

The accident recurrence picture in San Francisco traffic is notoriously bad. The accident spot maps of the past three years confirm this conclusion, and it is certain that it lies in the scattering of jurisdiction in the administration of traffic control.

The comparison made in the following Table 210 is of three consecutive parallel streets in the Mission district as they appear on the accident spot maps of 1934, 1935 and 1936. The Table shows in a striking way the recurrence of accidents at intersections on Valencia Street, Mission Street and Van Ness Avenue South (Howard Street), from 13th (Duboce) Street to 28th Street, over the past three years. Mid-block accidents, which would largely increase the number shown, are not included.

The truest and most important measure of the effectiveness of a city's traffic control is its success in *finding and remedying conditions productive of accidents*; and the best evidence of success—or failure—in this vital matter is afforded by comparison of the city's accident spot maps, month by month and year by year.

The picture shown by the comparison in Table 210 is not an isolate picture; it is, unhappily, typical of many similar situations throughout the city. As evidence of success or failure in traffic control, it speaks forcibly against the present system of divided administration.

### *Recommendations*

The Survey recommends that city-wide jurisdiction in the administration of traffic control and traffic law enforcement be vested in the Traffic Bureau, with concomitant authority in its commanding officer

TABLE 210<sup>1</sup>

RECURRENCE OF ACCIDENTS AT INTERSECTIONS<sup>2</sup>  
 VALENCIA STREET, MISSION STREET, VAN NESS AVENUE SOUTH  
 13TH STREET TO 28TH STREET, 1934-5-6

	<i>Valencia Street</i>			<i>Mission Street</i>			<i>Van Ness Ave. So.</i>		
	1934	1935	1936	1934	1935	1936	1934	1935	1936
13th (Duboce) St.....	10	8	3	0	1	10	6	4	0
14th St.....	4	6	2	2	2	1	1	3	2
15th St.....	7	6	9	5	6	4	1	7	3
16th St.....	8	7	9	8	5	5	5	6	4
17th St.....	4	5	6	7	6	4	1	5	3
18th St.....	3	4	4	3	7	7	1	4	4
19th St.....	2	4	4	4	3	7	1	7	5
20th St.....	2	1	3	7	5	4	2	6	4
21st St.....	4	5	4	3	5	4	4	3	5
22nd St.....	5	5	9	9	4	7	2	4	3
23rd St.....	4	6	4	8	4	7	3	3	5
24th St.....	1	4	1	10	11	3	1	5	4
25th St.....	4	4	5	4	2	2	3	3	0
26th St.....	1	1	1	3	6	2	1	1	0
Army St.....	5	3	2	3	3	12	3	3	3
Duncan - Precita.....	0	2	1	5	0	3	*	*	*
(28th) Valencia St.....	*	*	*	4	7	4	*	*	*
Totals .....	64	71	67	85	77	86	35	64	45

<sup>1</sup>From records of San Francisco Police Department.

<sup>2</sup>Accidents between intersections, and accidents with property damage not exceeding \$50, are not shown.

\*Indicates there is no intersection of these streets.

for city-wide use of the traffic force in the exercise of selective enforcement and in the work of accident prevention; and that all temporary use of district station personnel for traffic work be under direction of the commanding officer of the Traffic Bureau, by order of the Chief of Police.

#### *Increase in Personnel*

The Traffic Bureau now has 155 men. It is recommended that this personnel be increased from year to year, as the present force is not adequate to render satisfactory service. It is also recommended that officers attached to the Traffic Bureau be protected against non-traffic assignments insofar as department efficiency permits. Traffic hazards are ever present and should be left unprotected only in the face of a serious public emergency.

*The Equestrian Detail*

The usefulness and desirability of a horse-mounted force in the Police Department for riot duty and other emergencies is generally recognized. In traffic work on motor-crowded city streets, however, the horse is a hindrance to an officer and not a help.

The Survey recommends that it would be a move of efficiency and economy to remove the horse detail from traffic duty and to provide it with police duties more suited to its capacities.

*The School Traffic Patrols*

The work that has been done by the School Traffic Patrols is one of the bright spots in accident prevention in San Francisco. The Police Department, the Parent-Teacher Associations, and the California State Automobile Association are to be commended for their cooperative efforts. School Traffic Patrols augment the personnel of the Police Department by giving direct protection to school children at hazardous points, and in addition afford a valuable channel for safety education. This activity should be expanded so that every school may have the advantages of a patrol.

*Selective Enforcement*

The rapid growth of the problem of traffic control makes daily more imperative the practice of selective enforcement. By no other method can a city hope, within its financial means, to cope with the demands of traffic conditions. Under any other system these demands can be met only through increasing the manpower of the traffic police to numbers out of all proportion.

Selective enforcement—which has been described earlier in this Chapter as the directing of special activities of the traffic police against particular violations and particular traffic conditions at the times and in the places where they are known to be productive of accidents—makes possible the meeting of the ever-increasing and ever-changing demands of traffic control with a reasonable minimum of manpower. Obviously, however, it is not practicable without centralized administration and authority. The material contained in this report provides a factual basis for a program of selective enforcement.



*Apprehension of Hit-and-Run Drivers*

The Traffic Bureau includes a detail of one sergeant and one officer charged with the identification and apprehension of hit-and-run drivers. This detail is equipped with a motorcar and has authority for operations on a city-wide basis. It has been functioning inconspicuously but efficiently. A summary of the activities is shown in Table 212.

TABLE 212<sup>1</sup>

HIT-AND-RUN CASES, ARRESTS AND CONVICTIONS  
FOR THE YEARS 1935 AND 1936

	1935	1936
Number of Cases.....	78	76
Cases Solved .....	50	43
Arrests Made .....	36	31
Convictions Secured .....	36	31
No Arrest, because injured person refused to prosecute.....	13	12
Stolen Auto Involved.....	1	0
Cases Remaining Unsolved.....	28	33

<sup>1</sup>From records of San Francisco Police Department.

*Accident Investigation*

The importance of accident investigation as a factor in accident prevention is too generally acknowledged to need discussion here. Unfortunately, untoward conditions—lack of jurisdiction, lack of manpower, lack of necessary equipment—have until now hindered effective exercise of this function by the Traffic Bureau.

Except in the cases of hit-and-run drivers, handled by the Traffic Bureau as has been noted above, and fatal accidents, which are handled by the headquarters homicide squad, the investigation of traffic accidents has heretofore rested with the police of the district stations—with results as indicated above, in Tables 207 and 208. Accident investigation work in the Traffic Bureau has practically been limited to the keeping of accident records by the statistical detail.

Now, however, the Chief of Police, with the new powers given to him by a recent amendment of the City Charter, and supported by the recommendations of the 1937 "Survey and Report on the San Francisco

Police Department," is in a position to organize an adequate accident investigation activity.

The Survey here particularly stresses and commends the inauguration of effective accident investigation by a specially trained detail from the Traffic Bureau personnel, which now for the first time is made possible by allotment of new radio cars to the Bureau for this purpose, with needful authority for city-wide operation by the detail assigned to the work.

#### *The Motorcycle Squad*

The Traffic Bureau's motorcycle squad, consisting of a lieutenant, three sergeants and forty-nine officers, operates on a city-wide basis and has been, until now, the sole means at the Traffic Bureau's disposal for application of selective enforcement.

The competency with which the squad's operations have been carried on is perhaps the best testimony as to the need and the success of city-wide administration centralized in the Traffic Bureau.

#### *The Fixed Post Detail*

These are the officers to whom is entrusted the duty of guarding the lives and personal safety of pedestrians by the direction and regulation of vehicular traffic at the more dangerous street intersections.

No members of the Police Department have a more important duty, and none have a more difficult and arduous task. Just as the work has peculiar characteristics, so it requires special qualifications—good physique, stamina, vigor, alertness, pleasing presence, good manners which include gentleness and firmness, unfailing courtesy and unfailing good humor. In general the personnel of the Traffic Bureau meets these requirements. It is again suggested, however, that serious attention must be given to reasonable increments in this personnel.

The Survey likewise submits that due regard for the safety of the officer in the midst of traffic—no less than fair play to the motorist who must see and obey his signals—require that the officer be made a more conspicuous figure than he is in his plain blue coat. The suggestion is therefore made that white harness has been found to serve this purpose quite effectively; and certainly in rainy and foggy weather white—not black—raincoats and hat covers are in order.

*The Statistical Detail*

The work done by the statistical detail is satisfactory, but it is not carried far enough. As a statistical record, particularly of accidents, the data it has to offer cover a wide field, are carefully and accurately assembled, and are readily available.

What is possible, but has not yet been done, is to make these statistics immediately and practically useful to the Captain of Traffic in the day-to-day operations of the Traffic Bureau. In this, precisely, lie their greatest usefulness and value.

*The Parking and "Tag" Situation*

From no angle is parking a more vexatious problem than from the viewpoint of law enforcement.

How disproportionately the tagging of parked cars figures in traffic law enforcement is indicated by Table 214, which shows the total number of "tags" (citations) on which fines were paid at the Fines Bureau, and the proportions of such fines paid for parking offenses and for all

TABLE 214<sup>1</sup>  
NUMBER OF FINES PAID AT FINES BUREAU ON CITATIONS  
FOR PARKING OFFENSES AND ALL OTHER VIOLATIONS  
UNDER CITY ORDINANCES AND STATE LAW  
AUGUST, 1935—MAY, 1937

Period	UNDER CITY ORDINANCES				
	Total Citations Paid	Parking Offenses	Number Paid for All Other Violations		
Six Months, Sept., 1935 - Feb., 1936....	30,623	25,413	83%	5,210	17%
Twelve Months, Sept., 1935 - Aug., 1936..	61,768	49,375	80%	12,393	20%
Eighteen Months, Sept., 1935 - Feb. 1, 1937	96,970	76,599	79%	20,371	21%
Twenty-two Months, <sup>2</sup> Aug. 1935 - May, 1937....	115,676	89,901	78%	25,775	22%
Period	UNDER STATE VEHICLE CODE				
	Total Citations Paid	Parking Offenses	Number Paid for All Other Violations		
Six Months, Sept., 1935 - Feb., 1936....	625	306	49%	319	51%
Twelve Months, Sept., 1935 - Aug., 1936..	1,523	636	42%	887	58%
Eighteen Months, Sept., 1935 - Feb., 1937....	2,648	1,105	42%	1,543	58%
Twenty-two Months, <sup>2</sup> Aug., 1935 - May, 1937....	3,526	1,344	38%	2,182	62%

<sup>1</sup>From records of San Francisco Fines Bureau.

<sup>2</sup>August, 1935, not a full month.

other types of violations, under City ordinances and State law, from the inauguration of the new tag system on August 8, 1935, to May 31, 1937.

In addition to the violations settled by payment at the Fines Bureau, approximately 2,970 parking cases and 18,832 non-parking cases were settled in the Traffic Court during the same period, giving totals of tags accounted for as follows:

Parking Violations: Fines Bureau .....	91,245	
Traffic Court .....	2,970	94,215
<hr/>		
All Other Violations: Fines Bureau .....	27,957	
Traffic Court .....	18,832	46,789
<hr/>		
Total Tags Accounted For.....		141,004

From the inauguration of the new system in August, 1935, until the end of May, 1937, the period covered by the above tabulations, 354,523 tags were issued by the city police. Of this total, therefore, more than 210,000—almost two-thirds—not only brought no money into the city's coffers, but represented waste of the time and energy expended by the Police Department in their issuance. In the heyday of "fixing," nothing approaching the loss of two-thirds of the tags issued was known.

These 210,000 tags were canceled, under the regulations of the new system, at the expiration of thirty days from issuance.

As tags issued for court offenses are signed by the offender, and so can be followed up, all of these 210,000 "lost" tags must have been citations to the Fines Bureau, and it is probable that all of them were for illegal parking. Using, however, the percentages shown in Table 214, not fewer than 168,000 would appear undoubtedly as parking cases; and this number, added to the 94,000 parking cases listed above, gives a minimum total of 262,000 cars "tagged" for parking violations during twenty-two months.

### *A Plan Suggested*

A number of cities have had some degree of success in attempting to solve the parking problem by towing away a car illegally parked and impounding it on the theory that it was abandoned, the owner or driver being assessed the amount of fine and costs upon his appearing to claim the car, since establishing his claim involved admission of guilt in parking the car illegally. Usually, however, the difficulties attendant upon the towing and storing of motor vehicles so limits the practice of impounding that it falls short of being a practical solution.

As a still untried variation of the impounding plan, the suggestion is here made that instead of towing away and storing the improperly parked car, the police, proceeding on the same legal fiction that a lawless vehicle is a stolen or abandoned vehicle, place a detainer on the car *where it stands*, forbidding removal of car or detainer by any person without authority of the Police Department.

The notice of detainer should be in the form of a sticker, strikingly conspicuous and difficult to detach, so affixed to the windshield as to offer maximum obstruction to a driver's view; and police authority for removal of detainer and car should be procurable at the Fines Bureau, where proof of ownership and evidence that the vehicle had not been stolen or abandoned would involve admission of violating the parking law.

The Survey suggests this plan with the hope that it may help to a solution of the parking problem.

#### *The San Francisco Traffic Court*

The operation of any system of traffic control, and the success of the traffic police in its administration, depend upon two factors—the support of public good will, and the support and cooperation of the traffic court.

Since the inception of the traffic court in San Francisco, the city has been fortunate in the record of the court and the integrity of its judges. In general the traffic police have enjoyed the confidence and the cooperation of the court, and in this healthy judicial atmosphere their work has grown in efficiency.

In the San Francisco municipal court, of which the traffic court is a part, it is the custom of the judges to accept assignment for terms of three months to the various departments of the court in rotation. Thus the judges, at three-month intervals, sit in turn upon the bench in traffic court.

This practice affords opportunity for many useful comparisons; and the Survey in a tabulation of more than twenty thousand cases as they appear in the records of the court has made some studies, both analytical and synoptic, extending over seven terms of the court.

In the belief that the results of these studies will be both interesting and useful to the judges of the court, the Survey presents them in the following series of tables:



TABLE 217<sup>1</sup>  
 SUMMARY OF COURT CASES BY TYPES OF OFFENSES, SHOWING DISPOSITION  
 SEVEN JUDICIAL TERMS: TWENTY-ONE MONTHS

<i>Type of Offense</i>	<i>No. of Cases</i>	<i>Dismissed</i>	<i>Guilty: Sent, Susp.</i>	<i>Held to Answer Juv. Court</i>	<i>Trans. to Fined</i>	<i>Total Fines</i>	<i>Average of Fines</i>
Driving—Major .....	15,473	2,004	1,400	206	76	64	11,723 \$ 75,394.50 \$ 6.43
Driving—Minor .....	554	348	17	2	...	...	187 566.00 3.03
Identification .....	1,539	1,299	70	2	...	16	152 602.50 3.96
Equipment .....	2	1	...	...	...	...	1 5.00 5.00
Pedestrian .....	7	2	2	...	...	...	3 6.50 2.17
Public Convenience .....	164	54	9	2	...	1	98 309.50 3.16
Parking .....	2,841	2,018	22	3	...	...	798 1,975.00 2.47
Miscellaneous (Non-Traffic) ..	261	126	11	21	85	15	3 60.00 20.00
Total .....	20,841	5,852	1,531	236	161	96	12,965 \$ 78,919.00 \$ 6.10

<sup>1</sup>Data from records of the San Francisco Traffic Court.

TABLE 218<sup>1</sup>  
SUMMARY OF COURT CASES BY MONTHS AND TERMS, SHOWING DISPOSITION  
SEVEN JUDICIAL TERMS: TWENTY-ONE MONTHS

Month	No. of Cases	Dismissed	Guilty: Sent. Susp.	Jailed	Held to Answer	Trans. to Juv. Court	Fined	Total Fines	Average of Fines
1st	621	93	2	14	9	..	503	\$ 3,628.00	\$ 7.21
2nd	1,030	223	26	10	5	1	765	4,488.00	5.87
3rd	1,739	1,106	41	17	4	..	571	3,359.00	5.88
4th	1,261	796	51	4	7	4	399	2,648.50	6.64
5th	1,478	904	75	21	5	..	473	2,958.00	6.25
6th	1,222	326	100	9	8	4	775	5,301.50	6.84
7th	996	156	78	17	19	3	723	5,189.00	7.18
8th	702	107	70	17	6	..	502	3,691.50	7.35
9th	1,173	186	129	16	6	4	832	5,668.00	6.81
10th	850	185	111	9	10	2	533	2,756.00	5.17
11th	853	179	150	4	2	..	518	2,088.00	4.03
12th	868	224	135	7	6	2	494	1,989.00	4.03
13th	667	125	47	7	10	3	475	2,838.00	5.97
14th	946	201	72	8	8	12	645	3,768.50	5.84
15th	776	144	47	19	17	10	539	3,398.50	6.30
16th	815	94	46	6	5	6	658	4,574.00	6.95
17th	739	102	36	8	5	5	583	3,530.00	6.06
18th	1,029	156	69	11	2	7	784	4,453.50	5.68
19th	1,047	164	84	7	11	5	776	4,237.50	5.46
20th	889	145	82	11	3	13	635	3,531.50	5.56
21st	1,120	212	82	14	13	16	783	4,897.00	6.25
Term:									
1st	3,390	1,422	69	41	18	1	1,839	11,475.00	6.24
2nd	3,951	2,026	226	34	20	8	1,647	10,908.00	6.62
3rd	2,871	449	277	50	31	7	2,057	14,548.50	7.07
4th	2,571	588	396	20	18	4	1,545	6,833.00	4.42
5th	2,389	470	166	34	35	25	1,659	10,005.00	6.03
6th	2,583	352	151	25	12	18	2,025	12,557.50	6.20
7th	3,056	521	248	32	27	34	2,194	12,666.00	5.77

<sup>1</sup>From records of the San Francisco Traffic Court.

TABLE 219<sup>1</sup>  
SUMMARY OF TWENTY-FIVE DRIVING OFFENSES, SHOWING COURT DISPOSITION  
SEVEN JUDICIAL TERMS: TWENTY-ONE MONTHS

Offense	No. of Cases	Dismissed	Guilty: Sent. Susp.	Jailed	Held to Answer	Trans. to Juw. Court	Fined	Total Fines	Average of Fines
Drunken Driving .....	466	217	27	64	36	1	121	\$ 7,520.00	\$62.15
Speeding .....	7,934	117	707	68	--	35	7,007	4,657.50	5.80
Reckless Driving .....	1,413	857	195	54	--	17	290	6,330.00	21.83
Negligent Homicide .....	83	69	--	--	13	1	---	---	---
Hit and Run (Felony) .....	30	10	--	--	19	1	---	---	---
Hit and Run (Misdemeanor) .....	42	25	6	4	--	--	7	212.50	30.36
Failing to Render Aid .....	67	39	6	4	8	--	10	281.00	28.10
Citling In .....	32	9	3	--	--	--	20	70.50	3.52
Passing Without Proper Clearance .....	8	1	--	--	--	--	7	19.00	2.71
Passing Street Car on Left .....	276	56	25	2	--	1	192	469.00	2.44
Passing Street Car Improperly .....	23	6	--	--	--	--	17	70.00	4.12
Failing to Signal .....	10	3	1	--	--	--	6	35.00	5.83
Failing to Yield Right-of-Way .....	1	1	--	--	--	--	---	---	---
Driving Without Headlights .....	123	115	2	--	--	--	6	15.00	2.50
Failing to Obey Police .....	94	27	11	1	--	--	55	184.00	3.35
Disobeying Signs and Signals .....	1,387	266	46	3	--	3	1,069	3,203.00	3.00
Driving on Left Side of Street .....	40	14	1	--	--	--	25	96.00	3.84
Failing to Stop at Arterial .....	78	19	1	--	--	--	58	165.00	2.84
Improper Turning .....	32	8	--	--	--	--	24	62.50	2.60
Failing to Yield Right-of-Way to Pedestrian .....	4	--	1	--	--	--	3	8.50	2.83
Striking Unattended Vehicle .....	19	11	6	1	--	--	1	15.00	15.00
Signaling Improperly .....	68	10	1	--	--	--	57	200.50	3.52
Improper Parking on Grades .....	8	7	--	--	--	--	1	1.00	1.00
Driving to Left of Safety Zone .....	80	13	8	--	--	--	59	162.50	2.75
Driving Wrong Way on One-Way Street .....	13	5	--	--	--	--	8	18.00	2.25

<sup>1</sup>From records of San Francisco Traffic Court.

TABLE 220<sup>1</sup>  
SUMMARY OF SPEED CASES BY MONTHS AND TERMS, SHOWING DISPOSITIONS  
SEVEN JUDICIAL TERMS: TWENTY-ONE MONTHS

Month and Term	No. of Cases	Dismissed	Guilty: Sent. Susp.	Jailed	Held to Answer	Trans. to Juv. Court	Fined	Total Fines	Average of Fines
1st	281	--	--	4	--	--	277	\$ 2,125.00	\$ 7.67
2nd	421	9	6	8	--	1	400	2,650.50	6.57
3rd	270	1	--	8	--	--	261	1,731.00	6.63
1st Term	972	10	6	17	--	1	938	6,382.50	6.80
1st	176	4	18	1	--	--	153	984.50	6.43
2nd	248	--	24	2	--	--	222	1,334.00	6.01
3rd	549	1	50	--	--	--	498	2,373.00	5.97
2nd Term	973	5	92	3	--	--	873	5,291.50	5.06
1st	485	1	40	7	--	2	435	2,629.50	6.04
2nd	316	1	33	3	--	--	279	1,797.00	6.44
3rd	532	1	56	9	--	1	465	2,971.00	6.39
3rd Term	1,333	3	129	19	--	3	1,179	7,397.50	6.27
1st	437	10	61	5	--	--	361	1,648.50	4.57
2nd	440	9	99	1	--	--	331	1,327.50	4.01
3rd	372	10	81	1	--	--	280	1,207.00	4.31
4th Term	1,249	29	241	7	--	--	972	4,183.00	4.30
1st	295	3	13	--	--	--	278	1,767.00	6.33
2nd	422	10	27	4	--	8	374	2,257.50	6.04
3rd	287	1	22	5	--	--	263	1,941.50	7.38
5th Term	1,004	14	62	5	--	8	915	5,966.00	6.52
1st	324	4	21	2	--	3	294	1,976.00	6.72
2nd	323	2	22	2	--	3	294	1,732.50	5.89
3rd	401	--	46	5	--	4	346	1,936.00	5.60
6th Term	1,048	6	89	9	--	10	934	5,644.50	6.04
1st	414	13	27	1	--	3	370	1,797.50	4.86
2nd	391	10	37	2	--	4	338	1,659.00	4.91
3rd	550	27	24	5	--	6	488	2,336.00	4.79
7th Term	1,355	50	88	8	--	13	1,196	5,792.50	4.84

<sup>1</sup>From records of San Francisco Traffic Court.

TABLE 221<sup>1</sup>  
SUMMARY OF RECKLESS DRIVING CASES BY MONTH AND TERMS, SHOWING COURT DISPOSITIONS  
SEVEN JUDICIAL TERMS: TWENTY-ONE MONTHS

Month	No. of Cases	Dismissed	Guilty: Sent. Susp.	Jailed	Held to Answer	Trans. to Juv. Court	Fined	Total Fines	Average of Fines
1st	49	27	--	3	--	--	19	\$ 380.00	\$ 20.00
2nd	82	45	10	1	--	--	26	497.50	19.50
3rd	69	9	41	5	--	--	14	995.00	21.07
1st Term	200	81	51	9	--	--	59	1,172.50	19.87
1st	66	47	6	--	--	1	12	201.50	16.79
2nd	76	47	6	5	--	--	18	390.00	21.67
3rd	68	46	6	2	--	--	14	295.00	21.07
2nd Term	210	140	18	7	--	1	44	886.50	20.15
1st	73	47	7	--	--	1	18	489.00	27.17
2nd	60	39	7	4	--	--	10	160.00	16.00
3rd	95	66	7	1	--	2	19	310.00	16.32
3rd Term	228	152	21	5	--	3	47	959.00	20.40
1st	74	45	18	3	--	1	7	120.00	17.14
2nd	57	41	14	1	--	--	1	50.00	50.00
3rd	68	51	12	2	--	--	3	33.00	11.00
4th Term	199	137	44	6	--	1	11	203.00	18.45
1st	63	37	11	1	--	1	13	180.00	10.00
2nd	63	43	13	2	--	1	4	125.00	31.25
3rd	99	46	14	10	--	4	25	346.00	13.84
5th Term	225	126	38	13	--	6	42	601.00	14.31
1st	55	25	7	2	--	1	20	601.00	30.05
2nd	44	21	6	5	--	1	11	577.00	52.27
3rd	52	41	1	1	--	1	8	202.00	25.25
6th Term	151	87	14	8	--	3	39	1,378.00	35.33
1st	77	50	6	3	--	1	17	335.00	19.71
2nd	61	41	1	2	--	--	17	382.50	22.50
3rd	62	43	2	1	--	2	14	412.50	29.46
7th Term	200	134	9	6	--	3	48	1,190.00	23.54

<sup>1</sup>From records of San Francisco Traffic Court.



TABLE 222<sup>1</sup>  
SUMMARY OF DRUNKEN DRIVING CASES BY MONTHS AND TERMS, SHOWING COURT DISPOSITION  
SEVEN JUDICIAL TERMS: TWENTY-ONE MONTHS

Month and Term	No. of Cases	Dismissed	Guilty: Sent. Susp.	jailed	Held to Answer Juv. Court	Fined	Total Fines	Average of Fines
1st .....	16	9	-	-	7	---	---	---
2nd .....	9	6	-	-	3	2	\$ 100.00	\$ 50.00
3rd .....	15	10	-	-	3	2	100.00	50.00
1st Term.....	40	25	-	-	13	8	395.00	49.37
2nd .....	15	5	-	2	-	6	175.00	29.17
1st .....	33	14	1	11	1	13	795.00	61.15
2nd .....	30	11	1	4	1	27	1,365.00	50.56
3rd .....	78	30	2	17	2	5	650.00	130.00
1st .....	19	5	-	6	3	10	650.00	65.00
2nd .....	26	10	-	6	-	8	525.00	65.63
3rd .....	22	10	4	-	-	23	1,825.00	79.35
1st .....	67	25	4	12	3	9	390.00	43.33
2nd .....	27	11	5	-	2	2	100.00	50.00
3rd .....	18	10	5	1	-	---	---	---
4th Term.....	21	12	2	4	3	11	490.00	44.55
1st .....	66	33	9	5	5	2	150.00	75.00
2nd .....	21	8	2	6	3	1	50.00	50.00
3rd .....	15	13	1	-	-	8	190.00	23.75
5th Term.....	25	6	-	8	3	11	390.00	35.45
1st .....	61	27	3	14	6	8	600.00	75.00
2nd .....	23	7	3	2	3	6	450.00	75.00
3rd .....	17	9	-	1	1	8	800.00	100.00
6th Term.....	32	18	-	5	-	22	1,850.00	84.09
1st .....	72	34	3	8	4	12	550.00	45.83
2nd .....	36	18	2	2	2	3	175.00	58.33
3rd .....	21	13	1	3	1	10	775.00	77.50
7th Term.....	25	12	-	3	-	25	1,500.00	60.00
82 .....	82	43	3	8	3	---	---	---

<sup>1</sup>From records of San Francisco Traffic Court.

TABLE 223<sup>1</sup>

SUMMARY OF COURT CASES, ALL OFFENSES,  
SHOWING DISPOSITION BY TERMS  
FIVE JUDICIAL TERMS: FIFTEEN MONTHS

TERM	Total Number of Cases	Dismissed	Continued	Non-Appearance Warrant Issued	Held to Answer	Transferred to Juvenile Court	License Suspended or Revoked	Jail: Committed	Jail: Sentence Susp.	Fine: Paid	Fine: Sentence Susp.	Probation (No other penalty)	Traffic School (No other penalty)
1st .....	4,532	582	1,160	627	40	12	3	34	183	1,887	1	2	1
2nd .....	3,767	615	544	456	15	4	14	22	174	1,559	7	191	166
3rd .....	3,883	516	961	517	25	27	3	33	147	1,592	4	42	16
4th .....	3,507	425	1,039	728	13	16	1	25	149	1,081	6	12	12
5th .....	4,189	437	887	618	19	25	2	19	221	1,929	3	19	10

<sup>1</sup>From records of San Francisco Traffic Court.

TABLE 224<sup>1</sup>  
SUMMARY, BY JUDICIAL TERMS, OF COURT CASES CONTINUED BEYOND END OF TERM,  
SHOWING NUMBER OF CONTINUANCES AND FINAL DISPOSITION  
FOUR JUDICIAL TERMS; TWELVE MONTHS

1st Term													2nd Term												
Number of Continuances													Number of Continuances												
17	14	11	9	8	7	6	5	4	3	2			1	2	3	4	5	6	7	8	10	13			
1	2	5	10	4	4	4	5	5	25	19	No. of Cases.....		12	22	15	8	3	3	1	2	2	1			
--	1	--	--	--	--	--	1	1	13	14	..... Dismissed.....		3	13	15	3	1	1	--	--	--	--			
1	--	4	2	2	--	--	1	1	3	--	..... Ordered Off Calendar.....		--	--	--	--	--	--	--	--	--	--			
--	--	--	--	--	--	1	1	--	--	--	..... Disappeared from Calendar.....		--	--	--	--	--	--	--	--	--	--			
--	--	--	--	--	--	--	--	--	--	--	..... Sentence Suspended.....		--	--	--	--	--	--	1	--	--	--			
--	--	2	--	--	--	--	--	--	--	--	..... Probation.....		--	--	--	--	--	--	--	--	--	--			
--	--	--	--	--	--	--	--	--	1	1	..... Non-Appeal Warrant Issued.....		7	1	--	--	--	--	--	--	--	--			
--	--	--	--	--	--	--	1	1	1	--	..... Held to Answer.....		2	3	--	4	--	--	--	--	--	--			
--	1	2	1	2	2	3	--	2	7	4	..... Fine: Paid.....		--	3	--	1	1	--	--	--	--	1			
--	--	--	--	--	--	1	--	--	--	1	..... Still Pending <sup>2</sup> .....		--	2	--	--	--	--	--	--	--	--			
1	2	3	--	--	--	--	--	--	--	--	..... Jail: Committed.....		--	--	--	--	2	1	--	2	2	--			
3rd Term													4th Term												
Number of Continuances													Number of Continuances												
10	9	8	7	6	5	4	3	2	1				1	2	3	4	5	7	8	9					
1	1	4	3	5	3	3	12	25	2	No. of Cases.....			4	19	29	17	7	2	1	1					
--	1	2	1	3	1	3	2	12	1	..... Dismissed.....			--	10	6	2	--	--	--	--					
--	--	--	--	--	--	--	--	--	--	..... Ordered Off Calendar.....			--	--	--	--	--	--	--	--					
--	--	--	--	--	--	--	--	--	1	..... Disappeared from Calendar.....			--	2	--	--	--	--	--	--					
--	--	--	--	--	--	--	1	2	--	..... Sentence Suspended.....			--	1	1	--	1	--	--	--					
--	--	--	--	--	--	--	--	--	--	..... Probation.....			--	--	--	--	--	--	--	--					
--	--	--	--	--	--	--	--	1	--	..... Transferred To Other Court.....			--	--	--	--	--	--	--	--					
--	--	--	--	--	--	--	2	1	--	..... Non-Appeal Warrant Issued.....			4	--	--	--	--	--	--	--					
--	--	--	--	--	--	--	--	--	1	1	..... Held to Answer.....		--	1	1	1	1	1	1	--	--				
--	--	--	--	--	--	--	1	5	7	1	..... Fine: Paid.....		--	5	5	2	1	--	--	--	--				
--	--	--	--	--	--	--	1	2	--	--	..... Jail: Committed.....		--	--	--	--	--	--	--	--	--				
1	--	2	2	--	--	--	--	--	--	--	..... Still Pending <sup>2</sup> .....		--	--	--	15	12	4	1	1	1				

<sup>1</sup>From records of San Francisco Traffic Court.

<sup>2</sup>At date of compilation.

*The Traffic Fines Bureau*

The Traffic Fines Bureau was put into operation at the beginning of 1928 in pursuance of the recommendation made in the report of the 1927 San Francisco Traffic Survey. As an adjunct of the Traffic Court it has functioned smoothly and satisfactorily and has proved its value in saving the time of the individual offender and in relieving the court from the necessity of hearings on minor offenses.

The judges of the Traffic Court from time to time establish a segregation of certain violations which may be considered as against public convenience rather than public safety, and "tags" issued by the police for these violations cite offenders to appear at the Fines Bureau, where they may elect to deposit and forfeit bail (it may be sent by mail instead) in the sum of one dollar, in which case they are given a receipt and the matter is closed; or they may demand a court trial, in which event they are given a citation to court, their case is entered on the court calendar and they are required to post customary bail for their appearance for trial.

Under the present segregation of offenses, all violations of the city traffic ordinances and of certain sections of the state law are classified as minor; the list of these offenses and the amount (\$1.00) of the penalty if paid at the Fines Bureau are printed on the back of the tag given to the offender. From January 1, 1936, to June 30, 1937, the convenience of the Bureau was availed of by 102,065 persons, thus relieving the court during these eighteen months from the burden of that many cases, an average of 5,670 per month.

Despite the success with which the Fines Bureau operates to the convenience of the individual and the relief of the court, a new method of administration has destroyed its usefulness to the traffic police. As formerly operated, its records were kept with a view to aiding law enforcement as well as for fiscal purposes, but since a new "tag" system was introduced in August, 1935, the law enforcement aspect has been completely neglected.

When the new system, under which the records are kept by the Controller's office, was introduced it was expressly stipulated that the Controller's office should furnish to the Traffic Bureau of the Police Department the following data:

1. A copy of each tag, which shows on its face the details of the violation;

2. Identification, on the tag, of each offender who makes settlement at the Fines Bureau; and
3. Identification, likewise on the tag, of each offender who fails to appear at the Fines Bureau to make settlement, and to whom a summons is sent.

Without this information, which under the new system *is procurable exclusively from these records*, it is impossible for the police to follow up cases of recalcitrant offenders or to maintain an index of "repeaters"—habitual law violators.

At the present time, the Police Department is given a copy of each tag, but is not furnished the identification of the offender either in the case of tags settled or in the case of persons to whom summonses are sent for failure to appear, and without this information the copy of the tag is useless from the law enforcement viewpoint.

The seriousness of the implications of this situation is indicated by the case of an individual who was found with eighty unpaid tags in his possession; and in the analysis of "The Parking and Tag Situation" it is shown that of a total of 354,523 tags issued under the new system to the end of May, 1937, more than 210,000 were unpaid. Neither in the case of these delinquents nor in the case of the persons who settled for their tags, was the identity of the violators made known to the police, who are thus left in the position of not knowing against whom to proceed.

### *Recommendation*

It is therefore recommended that the Controller's office be required to begin without delay supplying to the Police Department this essential information, through lack of which the tag system's usefulness for law enforcement is lost, and the revenue accruing to the City from penalties for minor violations of the traffic law is steadily decreasing.



## CHAPTER X

### A LIMITED WAY PLAN FOR SAN FRANCISCO

In dealing with the present and future problem of traffic accidents and traffic congestion in a great metropolis such as San Francisco it is no longer profitable to deal solely with superficial aspects of the problem nor with superficial relief measures. Relief measures through education, enforcement, regulation and certain types of minor physical improvements are recommended elsewhere in this report. Many of these relief activities are of prime importance at the present time and many will be necessary in some form for all time. What is required however, is not a continuing series of relief measures, but a permanent cure for the major problem of accidents and congestion. This cure is outlined herewith.

#### *Basic Causes of Traffic Accidents and Traffic Congestion*

All traffic accidents and all traffic congestion arise from identical types of causes in traffic movement. These causes may be listed and described as follows:

- (1) *Medial Friction:* This is the interference, potential or actual, which takes place between two lines of traffic moving in opposite directions in the same roadway. It is the cause of many traffic tangles and blockades and is the primary cause of head-on collisions and the secondary cause of most "side-swiping" accidents.
- (2) *Marginal Friction:* This is the interference, potential or actual, which takes place between a line or lines of moving traffic and standing vehicles, persons or obstructions in or near the margin of the roadway. It is acutely manifested and illustrated by the hazardous and congestive "eddies" in traffic in the presence of double line parking, though there is an almost infinite series of conditions resulting in similar disturbances.
- (3) *Intersectional Friction:* This is the interference, potential or actual, which takes place between two or more lines of traffic intersecting on the same plane. It is a primary cause of vehicle - vehicle, and vehicle - pedestrian collisions, and is the major cause of traffic congestion in San Francisco as well as in all other great cities. When this interference becomes actual and acute, it is the normal practice to install traffic control signals, which

despite their necessity, reduce the full gross capacity of the intersecting routes to less than 50% of their free flowing capacity. Potential interference is even more important as a congestive factor, for considerations of caution require the normal safe driver to operate through almost every intersection as though the interference were actual.

- (4) *Internal Stream Friction*: This is the interference which takes place between the units in a traffic stream moving in the same roadway in the same direction. It results primarily from differentials in velocity. It is the major cause of rear end collisions and a principal congestive influence. It arises from the operation in the same stream, of vehicles with different operating characteristics, typically illustrated by street cars, trucks and passenger cars, and from a cross-section design of the roadway precluding adequate segregation of vehicles with different operating potentials or of vehicles engaged in different types of traffic activities.

A comprehensive examination of traffic accident and traffic congestion in the City and County of San Francisco confirms the examinations made elsewhere and leads to a basic conclusion, to-wit: that all traffic accidents and all traffic congestion arise from these and from no other primary causes and conversely that traffic accidents and traffic congestion can be reduced only to the degree that these causes are removed or mitigated.

### *Elements in Limited Way Design*

To accomplish these objectives it is necessary to project a type of roadway design which physically precludes the occurrence of the four types of "friction" described above or so reduces their seriousness as to render them unimportant. Such a type of route may be designated as a "Limited Way," that is a roadway placing limitation upon the basic causes of accidents and congestion.

It is described as follows: A "Limited Way" is a roadway for the exclusive use of motor vehicles (and as the term is used herein, for the exclusive use of motor vehicles of the private passenger car type or of other passenger or commercial vehicles of similar weight and operating characteristics) which has the following physical elements:

- (1) A complete and continuous physical separation of opposed streams of traffic;
- (2) No direct access to abutting property and with all entries and exits to and from the structure by specially designed connections;
- (3) A continuous separation of all intersections with no cross movement of any kind across the operating lanes of the Limited Way;

- (4) A cross-section design to permit an adequate segregation of relatively fast and relatively slow vehicles and with retarding lanes at exits and accelerating lanes at entries.

### *Methods of Achieving Limited Way Design*

With the essential elements of Limited Way design described it is apparent that the objectives cannot be obtained by any method of control or by any minor physical adjustment in normal street design. Thus attention must be turned to new types of construction. Lest these types be considered as radical innovations it should be noted that each is successfully illustrated in principle in the San Francisco Bay area. A complete Limited Way type of roadway, with the unfortunate absence of a medial divider, is illustrated in the San Francisco-Oakland Bay Bridge. Similarly Limited Way type of construction with a medial divider but without adequate provision for entrees and exits is illustrated in the new East Shore Highway leading northward from the above bridge to Richmond. Such innovation as may be involved in Limited Way construction lies in the complete and consistent application of the four basic elements to continuous and coordinated route construction.

Limited objectives can be obtained through any one of three types of treatment:

- (1) *An elevated Limited Way* which provides for a continuous elevation of the major route over all intersecting routes. For preliminary functional designs see Figure 235.
- (2) *A depressed Limited Way* which provides for the carrying of the major route below the grade of all intersecting routes. See Figure 237.
- (3) *A Limited Way treatment* of an existing grade route to achieve a portion of the Limited Way objectives. See Figure 238.

Each of these three types of construction has been used in the proposed plan according to character of area, topography or other considerations. Notes with respect to typical connectors between Limited Ways and between a Limited Way and a ground route are contained in Figures 238-239. The inclusion in this Figure of a reference to potential bus stations and passenger loading platforms requires explanation. The Limited Way structures and the Limited Way plan proposed herein would appear to be properly adapted to use by high-speed, light, express buses. The operating capacity of the structures proposed is adequate to absorb a considerable volume of such traffic without undue interference with the normal load. Figure 239 indicates one manner in which bus

loading facilities may be incorporated, though special and more elaborate facilities may be provided where needed. No recommendation is made with respect to the incorporation of bus traffic, as mass transportation is a subject beyond the scope of this report except insofar as it affects vehicular and pedestrian traffic movements.

### *Principles Governing Design of a Limited Way Plan*

The design of a comprehensive Limited Way plan for the City and County of San Francisco carries heavy responsibilities, not alone because of the relatively large cost ultimately involved but because of the great benefits which will accrue if the system is accurately adjusted to the present and future needs of the community. This responsibility is assumed with confidence because of the adequacy of the Survey materials now available.

These materials divide themselves into several natural classifications, each of which exerts a controlling influence upon planning decisions. They are as follows:

- (1) *Existing traffic volumes* to be accommodated with due regard to future increments and distribution which in the absence of unpredictable major community shifts will probably follow the present pattern with internal traffic volumes being a function of population growth in the Bay area. See Chapter III.
- (2) *Facility of Movement*: this being an analysis of existing congestive factors affecting current facility of movement within the community, all of which will probably become more restrictive in the future with increased traffic volume and none of which can be materially relieved by more elaborate control methods or by street widenings. See Chapter IV.
- (3) *Origin and Destination Requirements* as illustrated by present exchange of traffic volumes between functional areas within and without the city and with due regard to the special problems created by the bridges. See Chapter V.
- (4) *Accident Distribution* as shown by the current location of traffic accidents within the community. See Chapter VII.

The above data is comprehensively analyzed and illustrated in the Chapters indicated, supporting the conclusions with respect to remedial measures and more especially the conclusions with respect to the Limited Way plan.

In addition to the above data two general but basic engineering principles have guided planning decisions. They may be expressed as follows:

- (1) The solution of the traffic problem requires a limitation upon a continued wide dispersion of traffic seeking maximum operating speed upon a multiplicity of partially improved routes, and an increased concentration of traffic volume upon routes capable of providing relatively high speed with maximum safety.
- (2) There is a basic need for an increased segregation of general large volume passenger car traffic from truck traffic, rail traffic and pedestrian traffic.

There is no lack of assurance that the general system of Limited Ways proposed herein is properly suited to the needs of the community as a whole—all of its parts—and all of its principal external connections, and it is believed that each individual route proposed is best adapted to perform its part in the coordinated city-wide system. On the other hand this report, even in its final form, cannot purport to present an exact and definitive analysis of all design and routing factors involved. Thus the routings proposed herein should be considered as suggestive and functional in character.

## A LIMITED WAY PLAN FOR THE CITY AND COUNTY OF SAN FRANCISCO

In the light of the above considerations and descriptions there is proposed herewith a series of projects all of which together form a comprehensive Limited Way plan for the City and County of San Francisco and all of which are illustrated in Figure 241.

### DESCRIPTION OF LIMITED WAY PROJECTS

#### *Bayshore - Potrero - Division - Twelfth:*

South of the City-County line it is recommended that the Bayshore Highway be given limited way treatment at grade. Beginning at a point just south of the City-County line and continuing northerly to a point just south of Tunnel Avenue the route should be elevated. Thence northerly to Wheat Street give limited way treatment at grade with a grade separation at Third Street. From Wheat Street to a point between Bacon and Burrows Streets elevate. From that point to just south of Silver Avenue give limited way treatment at grade. The route should thence be depressed to a point just north of Augusta Street. From this point the route should be elevated to a connection with the Market - Van Ness Rotor along the line as described. Easement



will be required in the line of Twelfth Street projected to Division Street. Connecting ramps should be provided at Alemany Boulevard, Army Street, Twenty-Second Street, Seventeenth Street, Brannan Street, and at the Market - Van Ness Rotor.

*Harrison Street and Tenth Street Connector:*

From a junction with the South Van Ness Avenue elevated route at approximately Fifteenth Street, on a line along Harrison Street projected and in easement to be acquired, this route should be elevated and thence in Harrison Street to a point just east of the truck ramp of the Bay Bridge. Thence easterly in Harrison Street there should be Limited Way treatment at grade to a point just east of Beale Street, thence elevated to a connection with the elevated route in the Embarcadero. In Tenth Street an elevated route should be built connecting the Harrison Street elevated route with the elevated route in Potrero Avenue at Division Street. Ramp connections should be provided for the Harrison Street elevated route at Seventh Street, at Fifth Street and the Bay Bridge distribution structure, and at Third Street. An elevated rotor connection should be provided to the Limited Way in Third Street. A branch of the First Street off ramp of the Bay Bridge should be given east and west connections with the Harrison Street structure. Similarly east and west connections should be provided from the Harrison Street route to the Fremont Street on ramp of the Bay Bridge.

*Market Street - Portola Drive:*

From the Market - Van Ness Rotor this route should be elevated to a point over the easterly portal of the Twin Peaks Tunnel with ramp connections at Valencia Street, Duboce Avenue, and Seventeenth Street. Thence to Junipero Serra Boulevard this route should follow the Market Street - Portola Drive alignment with Limited Way treatment at grade and with as much easing of grade and curvature as may be possible. This latter recommendation is conditioned upon availability of the Twin Peaks Tunnel for joint bus and passenger car operation, in which case West Portal Avenue should be elevated, and the Portola Drive route will be preserved as a scenic route.<sup>1</sup>

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<sup>1</sup>This report makes no recommendations with respect to the possible use of the existing Twin Peaks Tunnel as this involves traction and transportation policies beyond the scope of this Survey. Certain facts respecting present and possible future use of this structure are, however,

*Junipero Serra Boulevard:*

A large diameter rotor should be constructed at the junction of Junipero Serra Boulevard, Sloat Boulevard and Portola Drive, with street car loading facilities in the central island, if rail service is continued, and with pedestrian tunnels to adjacent sidewalks. From this rotor southerly to the junction with Nineteenth Avenue Extension this route should be given Limited Way treatment at grade.

*Sloat Boulevard:*

From the rotor at Junipero Serra Boulevard westerly to its connection with the Great Highway - Skyline Boulevard, this route should be given Limited Way treatment at grade. Ramp connections should be provided at Nineteenth Avenue and the ramp connections should be completed at Sunset Boulevard. West-bound Sloat Boulevard traffic should be provided with an underpass connection to the new diagonal roadway to Skyline Boulevard. A large diameter rotor should be constructed at the junction of Sloat Boulevard, the Great Highway, and the Skyline Boulevard.

*Great Highway - Skyline Boulevard:*

This entire route should now be given Limited Way treatment at grade and eventually that portion from Lincoln Way northerly to a point south of the Cliff House should be depressed with pedestrian overpasses or provided with a grid overdecking.

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pertinent. The approximate public investment in the tunnel structure is \$4,000,000. If interest and maintenance charges be estimated at 5% the carrying charges would be \$200,000 per annum. The current average daily traffic in street car passengers is approximately 20,000 persons for the twenty-four hour day in both directions, or 7,300,000 persons per annum. The annual overhead of \$200,000 distributed to the total traffic results in a carrying charge of 2.7 cents per passenger carried. There is now exchanged between the general areas served by the Twin Peaks Tunnel a daily traffic of more than 30,000 automobiles by routes much longer and with grades much less favorable than those afforded by the Tunnel. With a loading factor of 1.5 this traffic represents a daily automobile passenger movement of 45,000 persons or an annual automobile passenger movement of 16,425,000 persons. Combined with the annual street car traffic of 7,300,000 persons this makes an annual combined traffic of 23,725,000 persons. The annual overhead of \$200,000 distributed to this combined annual traffic results in a carrying charge of only .84 cents per person. With a four cent gas tax, with assumed average gas consumption at fifteen miles per gallon, with an automobile loading factor of 1.5 and with a tunnel length of 2.22 miles, automobile traffic would contribute to overhead at the rate of .40 cents per passenger. In cross-section the Twin Peaks Tunnel compares favorably with the New York Midtown Vehicular Tunnel under the Hudson River. Maximum observed street car traffic at peak hour in the Twin Peaks Tunnel is now twenty street cars per hour in one direction or a headway of three minutes. Bus substitution might double the number of mass transportation units to a maximum of 40 per hour. Even this load would leave an unused capacity for passenger car vehicular traffic in each direction of more than 1,000 movements per hour. Vehicular use of the Tunnel would of course require the installation of a ventilating and lighting system, and a substitution of pavement for the trackage.

*Oak Street - Golden Gate Park:*

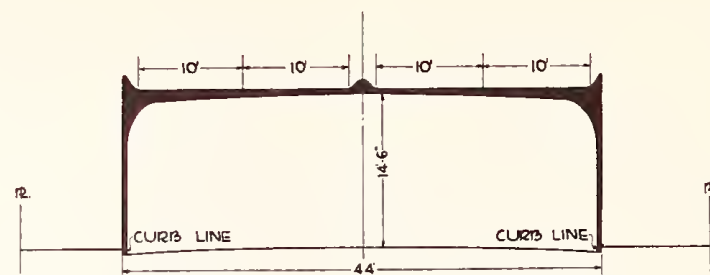
Beginning at the Market - Van Ness Rotor this route should be elevated to the Golden Gate Park Panhandle, with ramp connections at Steiner Street, and Baker Street. From Baker Street westerly the route should be semi-depressed to the line of Funston Avenue extended, with pedestrian overpass and with vehicle overpasses and connections at Masonic Avenue, Stanyan Street and at the principal park drives. From the line of Funston Avenue extended westerly to the Great Highway this should be given Limited Way treatment at grade with pedestrian and vehicle overpasses and connections at the principal park drives. In connection with that portion of the route which lies in Golden Gate Park it should be noted that the treatment is comparable to that followed by the Westchester Park Commission in New York in the development of parkways which have added so much to the amenities and accessibility of park areas.

*Van Ness Avenue:*

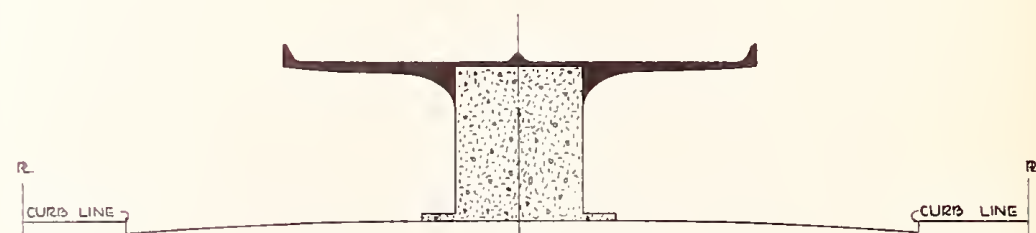
An elevated Limited Way is required throughout the length of Van Ness Avenue from its connection with the Market - Van Ness Rotor on the south to its junction with the Beach Street elevated way on the north. Rotor connections should be made with the California Street Limited Way in easement to be acquired. Ramp connections should be provided at Turk Street, Post Street, California Street, Lombard Street and Broadway. Through the Civic Center Area the elevated Limited Way should be given architectural treatment consistent with the monumental character of the existing structures in order that it may blend with these structures as the Limited Way around the Grand Central Terminal in New York City blends with that structure.

*Market Street - California Street - Clement Street:*

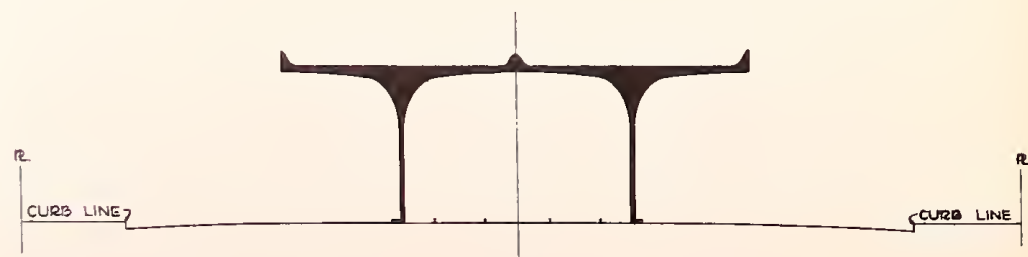
From the Embarcadero elevated route Market Street should be elevated to California Street with a ramp connection to Market and Drumm Streets. Thence elevation should continue westerly in California Street to a point just west of Stockton Street with an elevated rotor junction with the Limited Way in Kearny Street with easement to be acquired. From this point westerly the route should be depressed to a point just west of Leavenworth Street. Assuming that the cable car operation is not



CURB MOUNTED SUPPORTS WITH FULL SPAN OVER EXISTING ROADWAY



SINGLE SUPPORT - CANTILEVER CONSTRUCTION. USEFUL ON WIDE STREETS WITHOUT TRACKS WHERE MAXIMUM SURFACE PAVEMENT IS REQUIRED.



SUPPORTS MOUNTED ADJACENT TO OUTER RAILS OF STREET RAILROAD TRACK, CARRYING ELEVATED STRUCTURE 44 FEET OVERALL WIDTH, CANTILEVER. SUPPORTS AND CAR TRACKS CURBED IN. WHERE THIS TYPE IS USED WITHOUT TRACKS, SPACE BENEATH STRUCTURE FOR PROTECTED PARKING.

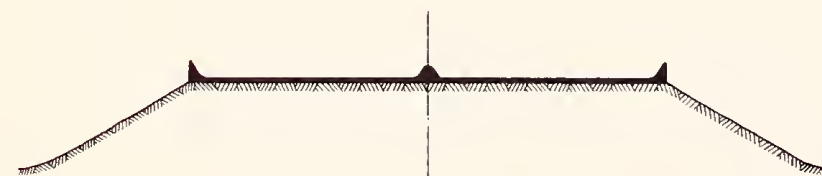
## SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 ~ 5863

### ELEVATED LIMITED WAY

Prepared For  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN ~ DIRECTOR

By  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



EARTH FILL ELEVATED LIMITED WAY WITH NATURAL SLOPE. LANDSCAPED BANKS.

### NOTES

WIND LOAD FACTORS SHOULD BE USED ON ALL ELEVATED STRUCTURES. SIDE RAILS AND UNDER STRUCTURE SHOULD BE SHEATHED IN FLUTED STAINLESS STEEL OR OTHER ARTISTIC TREATMENT, AND ARCHITECTURAL DESIGN SHOULD BE CONSISTENT WITH THE AREA TRAVERSED. MEDIAL ILLUMINATION SHOULD BE PROVIDED ON THE LIMITED WAY, AND ADEQUATE ILLUMINATION BENEATH AS MAY BE REQUIRED.





# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 ~ 5863

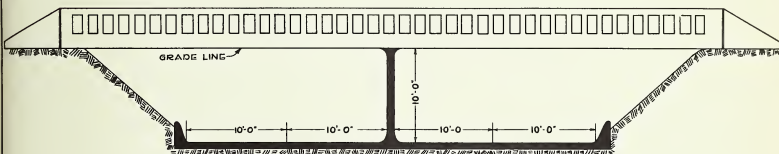
## DEPRESSED LIMITED WAY

Prepared For  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN ~ DIRECTOR

By  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

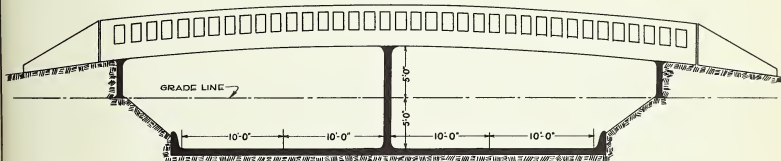
### DEPRESSED LIMITED WAY

FULL DEPRESSION TO GIVE 10' CLEARANCE BETWEEN SURFACE OF LIMITED WAY AND PEDESTRIAN OR VEHICULAR OVER-PASSES. NORMAL EARTHEN BANKS.



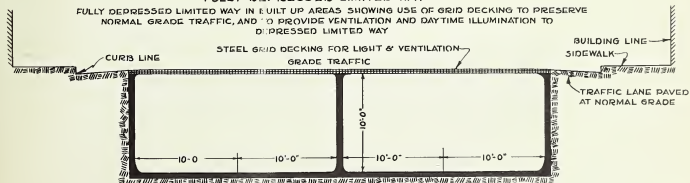
### SEMI-DEPRESSED LIMITED WAY

SEMI-DEPRESSED LIMITED WAY. BALANCE OF 10' HEADWAY ACHIEVED BY SUPER-ELEVATION OF PEDESTRIAN AND VEHICLE OVER-PASSES.



### FULLY DEPRESSED LIMITED WAY

FULLY DEPRESSED LIMITED WAY IN BUILT UP AREAS SHOWING USE OF GRID DECKING TO PRESERVE NORMAL GRADE TRAFFIC, AND TO PROVIDE VENTILATION AND DAYTIME ILLUMINATION TO DEPRESSED LIMITED WAY



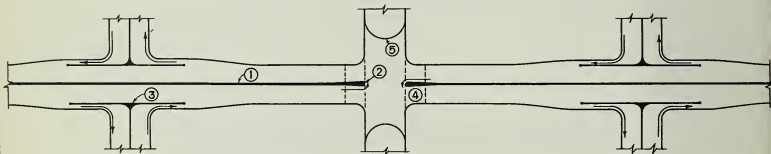
# SAN FRANCISCO TRAFFIC SURVEY

## W.P.A. PROJECT 6108 ~ 5863

### LIMITED WAY TREATMENT AT GRADE

Prepared For  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN ~ DIRECTOR

By  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



- 1- MEDIAL DIVIDING STRIP
- 2- TURNING ISLANDS AT BREAKS IN MEDIAL DIVIDING STRIP - ENLARGED TO GIVE PROTECTION TO TURNING VEHICLES.
- 3- BARRIER TO PREVENT DIRECT ACCESS TO ROUTE BY FORCING RIGHT TURN MOVEMENTS.
- 4- PEDESTRIAN CROSSWAY - AT GRADE IN FIRST STAGE DEVELOPMENT - AND BY TUNNEL OR BRIDGE WHERE LARGE VOLUMES ARE INVOLVED.
- 5- MANY MINOR RESIDENTIAL STREETS CAN BE SHUT OFF ENTIRELY - GREATLY TO THE BENEFIT OF RESIDENTS - ACCESS TO THE LIMITED WAY ROUTE BEING PROVIDED AT THE NEAREST MAJOR INTERSECTION.

NOTE

DISTANCE FROM ENTRIES TO THE NEAREST TURNING ISLAND SHOULD NOT BE LESS THAN 100 YARDS AND AS MUCH LONGER AS MAY BE FEASIBLE.

# SAN FRANCISCO TRAFFIC SURVEY

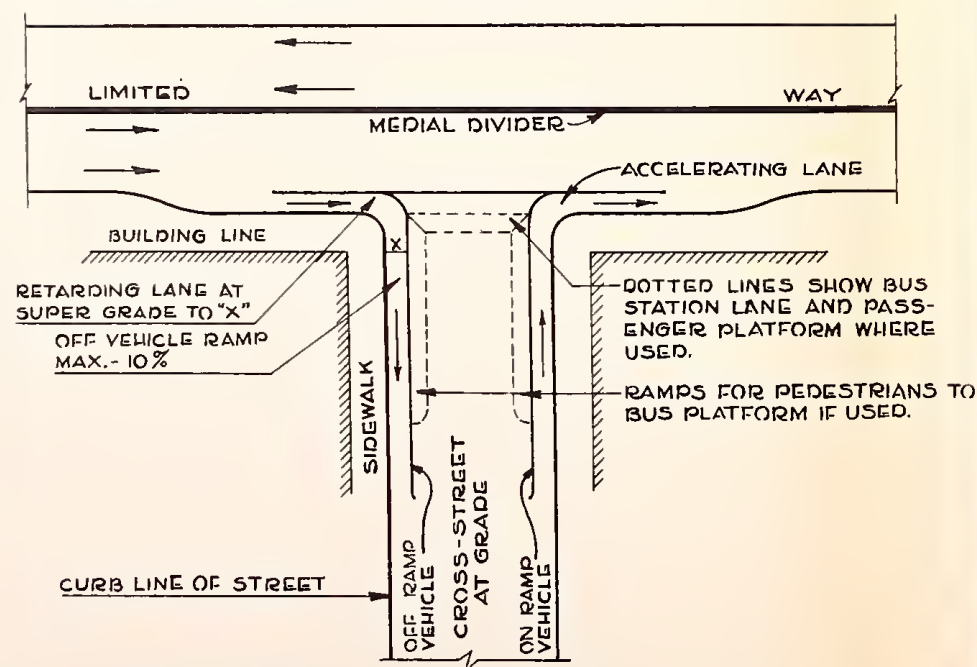
## W.P.A. PROJECT 6108 ~ 5863

### TYPICAL RAMP CONNECTIONS

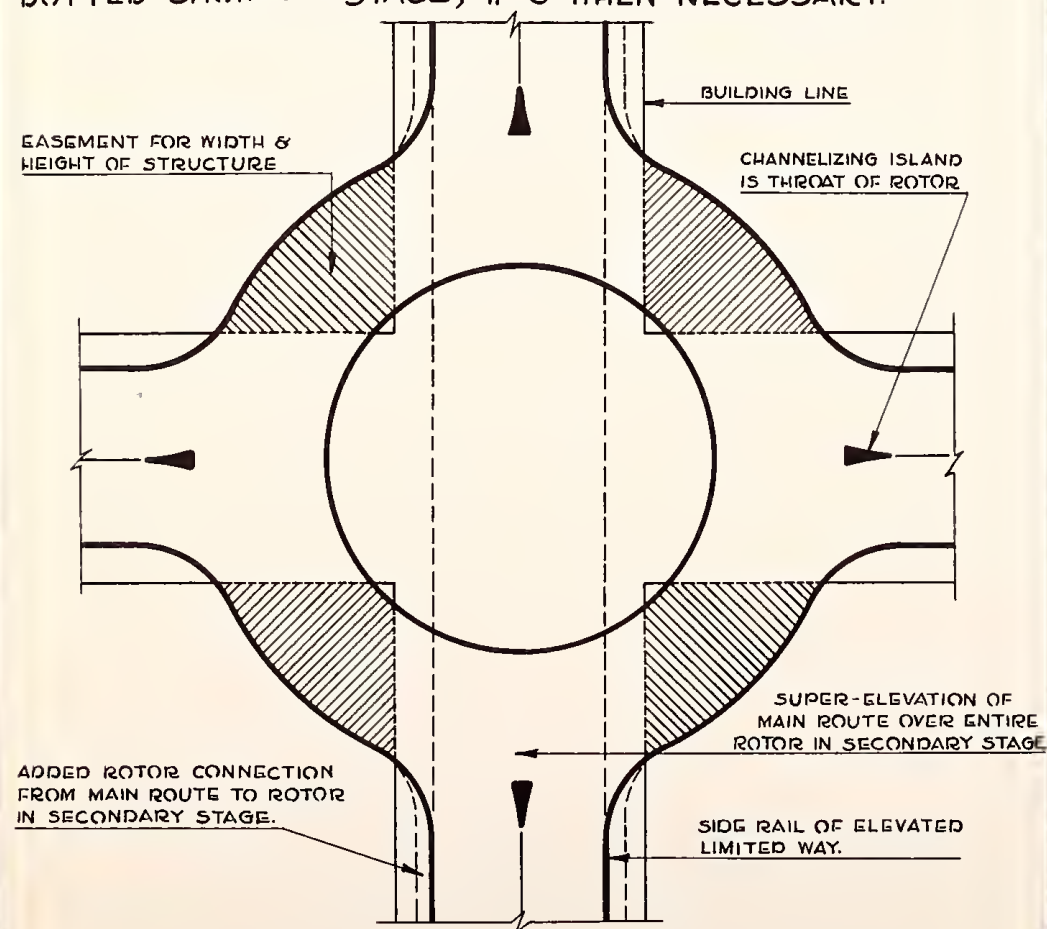
Prepared For  
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TYPICAL RAMP CONNECTIONS BETWEEN  
LIMITED WAY AND A GRADE ROUTE.



TYPICAL ROTOR DISTRIBUTOR AT INTERSECTION OF TWO  
ELEVATED LIMITED WAYS. SOLID LINES SHOW 1<sup>ST</sup> STAGE;  
DOTTED SHOW 2<sup>ND</sup> STAGE, IF & WHEN NECESSARY.







# SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

## A LIMITED WAY PLAN

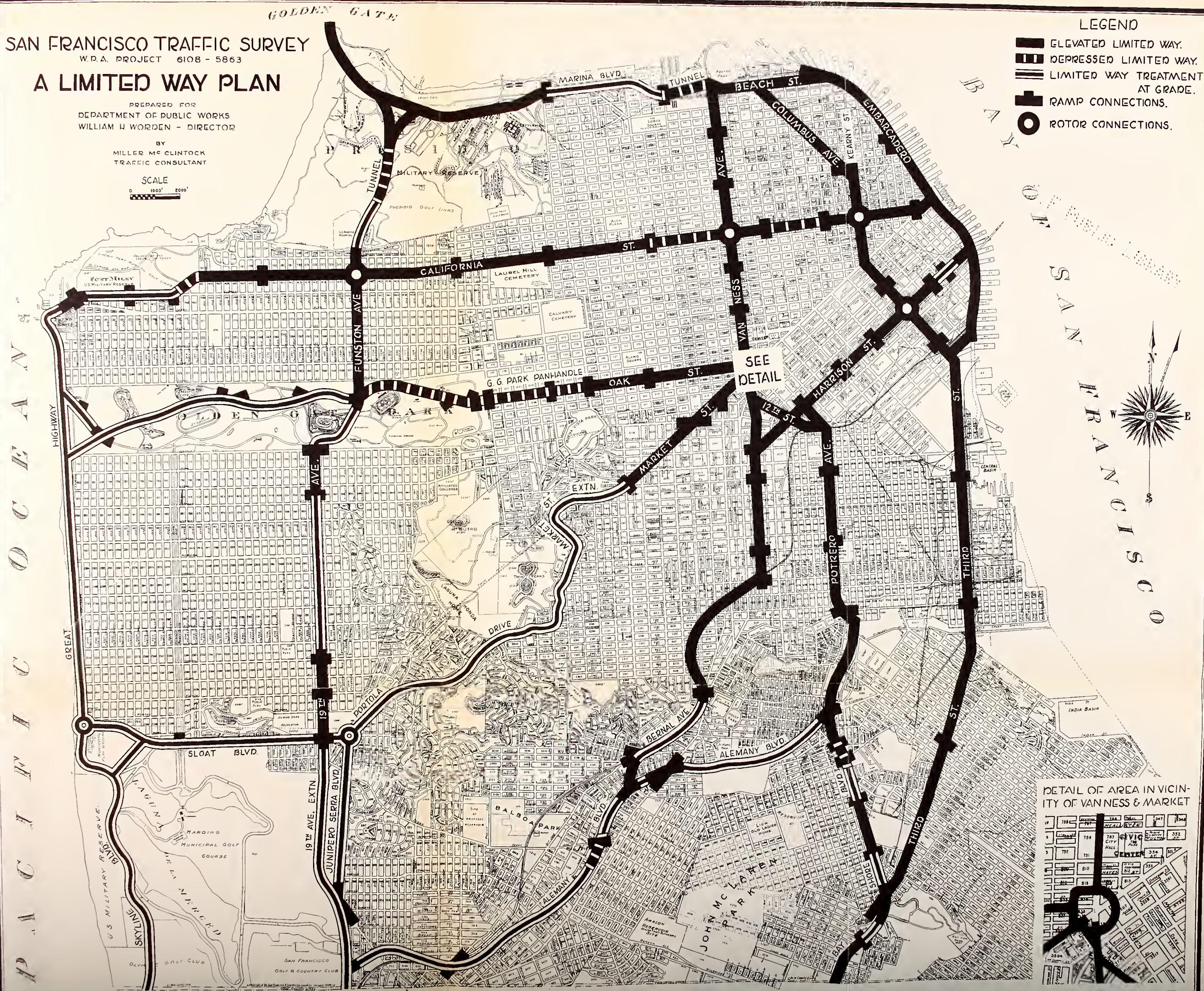
PREPARED FOR  
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WILLIAM H WORDEN - DIRECTOR

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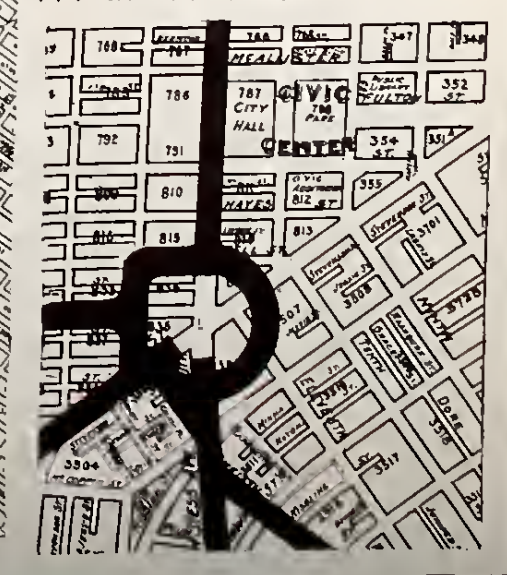
SCALE  
0 1000' 2000'

### LEGEND

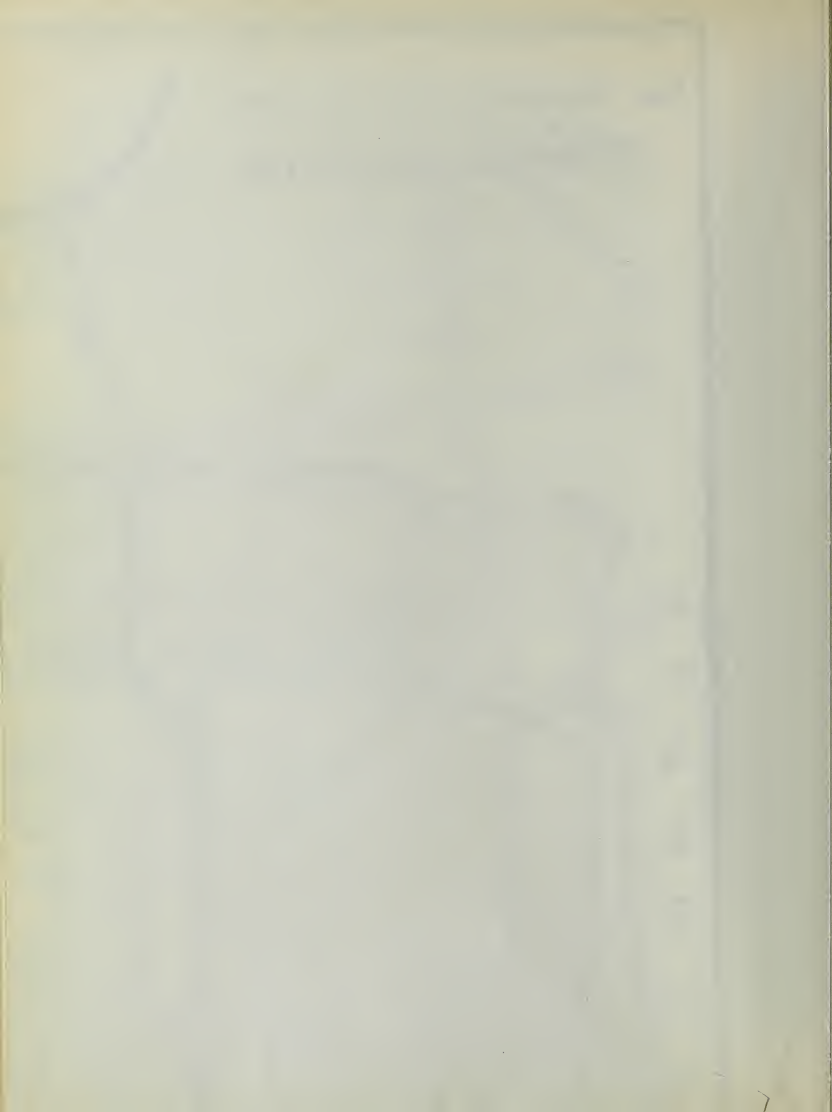
- ELEVATED LIMITED WAY.
- DEPRESSED LIMITED WAY.
- LIMITED WAY TREATMENT AT GRADE.
- RAMP CONNECTIONS.
- ROTOR CONNECTIONS.



DETAIL OF AREA IN VICINITY OF VANNES & MARKET







replaced by bus operation the depression should be by means of a pair of depressed ways on each side of, and immediately adjacent to, retaining walls supporting the cable car trackage. Or should sub-soil exploration and grade improvement warrant it may be found advisable to carry present rail and future grade traffic over a single open cut with grid decking. Furthermore, final consideration of costs and grades may justify deep tunnel construction for the lengths proposed for depression both for this portion of the route and for that lying between Van Ness Avenue and Webster Street. From a point just west of Leavenworth Street to a point just west of Van Ness Avenue the route should be elevated with a rotor connection with the Van Ness Avenue elevated way. This rotor connection will require easements to be secured. Thence westerly the route should be depressed, as hereinbefore described, to a point just west of Webster Street. From this point westerly the route should be elevated to a line of Thirty-Third Avenue extended, with ramp connections at Presidio Avenue, and Arguello Boulevard and with an elevated rotor connector at the Funston Avenue embanked, elevated way. A ramp connection should also be provided at Twenty-fifth Avenue. From the line of Thirty-third Avenue extended to the intersection of Thirty-fifth Avenue and Clement Street the route should be depressed with easy curvatures through Lincoln Park. From Thirty-fifth Avenue westerly the route should be given Limited Way treatment at grade to a point just east of El Camino Del Mar where the route is in Seal Rock Drive. A grade separation with ramp connections should be provided at El Camino Del Mar, and the route joined with Point Lobos Avenue, and the Great Highway route.

*Berry Street - The Embarcadero - Beach Street -  
Marina Boulevard - Golden Gate Bridge:*

From a connection with the Third Street elevated way this route should be elevated in Berry Street, and thence should be carried by elevated way along the Embarcadero to Beach Street with ramp connections at the southerly end of the Embarcadero - Harrison Street elevated way, the Market Street elevated way, with Union - Front Streets and with the Embarcadero at grade just east of Stockton Street. The route should continue at elevation westerly in Beach Street to a connection with the elevated

way in Van Ness Avenue, and with a ramp connection to the elevated way in Columbus Avenue. Thence westerly the route should be carried under Fort Mason utilizing the existing railroad tunnel widened or by new tunnel construction as may be most expedient. From the westerly portal of this tunnel located just east of Laguna Street, the route should be carried in Marina Boulevard with Limited Way treatment at grade to a connection with the existing Golden Gate Bridge Approach.

*Golden Gate Bridge - Presidio Drive - Funston Avenue -  
Park Drives - Nineteenth Avenue - Nineteenth Avenue  
Extension - Junipero Serra Boulevard:*

From a ramp connection with the elevated Golden Gate Bridge Approach near reservoir site this route should be elevated to a "Y" connection with a similarly elevated route extending easterly to a connection with the elevated Golden Gate Bridge Approach at a point northeasterly of the U. S. National Cemetery. From the "Y" junction above described the route should extend southerly by means of tunnel constructions beginning near the easterly end of the officers' quarters to a point northeasterly of the U. S. Marine Hospital, the exact point to be determined by a detailed engineering study. From this point the route should continue with Limited Way treatment at grade of existing roadway to Funston Avenue. Thence from a point at the southerly line of the Presidio the route should be extended southerly on an embanked Limited Way along the central drive of Funston Avenue and Funston Avenue extended to the intersection of the Limited Way in the main drive of Golden Gate Park. Obviously the tunnel in the Presidio and the Funston Avenue route should be constructed simultaneously, as fill from the tunnel can be run down grade to the Funston embankment. If this is inadequate in volume, fill can be borrowed from the semi-depressed Limited Way in the Panhandle and in Golden Gate Park. A rotor connection should be provided with the elevated Limited Way in California Street and ramp connections should be made to the Golden Gate Park Limited Way. Thence by a new Limited Way grade route a connection should be made to an elevated Limited Way beginning at a point just north of the intersection of Lincoln Way and Nineteenth Avenue. The elevated way should continue in Nineteenth Avenue to a point just south of Judah Street

with ramp connections to Lincoln Way. From this point southerly Nineteenth Avenue should be given Limited Way treatment at grade, to a point just north of Taraval Street. Ramp connections should be provided to Taraval Street and the route should be elevated southerly to a point south of Sloat Boulevard, with ramp connections to Vicente Street and Sloat Boulevard. Thence southerly the route should be given Limited Way treatment at grade in Nineteenth Avenue Extension and in Junipero Serra Boulevard with northbound movement depressed under the street railroad tracks at Eucalyptus Drive and at Worcester Avenue and with grade separation at the intersection of Alemany Boulevard.

*Alemany Boulevard:*

From a braided junction with Junipero Serra Boulevard it is recommended that Alemany Boulevard be given Limited Way treatment at grade with underpass and ramp connection at San Jose Avenue, to a point just southwest of Onondaga Avenue; thence this route should be depressed below Onondaga Avenue and Ocean Avenue to a point between Ocean Avenue and San Juan Avenue; thence continuing in Alemany Boulevard this route should be given Limited Way treatment at grade to its junction with the Bayshore route. Connecting ramps should be provided for the junction of Ocean Avenue and also with a new connection to Bernal Cut.

*Alemany Connection, Bernal Cut, Southern Pacific R. R.*

*Right-of-Way - Van Ness Avenue South:*

A new elevated connection, in easement to be acquired, should be placed between Alemany Boulevard at Tingley Street and San Jose Avenue just west of its present overpass of Bosworth Street, thence this route should continue northwesterly through the existing Bernal Cut to Randall Street. Thence this route should be elevated and follow the line at the old Southern Pacific R. R. right-of-way widened by acquired easement to Van Ness Avenue South, thence northerly in Van Ness Avenue South by elevated way, to a junction with the Market - Van Ness Rotor. Ramp connections should be provided at Randall Street, Guerrero - Twenty-sixth Street, Van Ness Avenue South at Twenty-fourth Street, Twenty-second Street, and Seventeenth Street.

*Third Street, Kearny Street, Columbus Avenue:*

This route should be elevated throughout its length from its junction with Bayshore Boulevard Route at its southern end to its junction with the Beach Street elevated route on its northern end. Ramp connections should be made at Oakdale Avenue, Army Street, Mariposa Street, Townsend Street, Harrison Street, Howard Street, California Street, Broadway and Beach Street. Elevated rotor connections in easement to be acquired should be made at the junctions of the Harrison Street and the California Street elevated ways.

*Market - Van Ness Rotor:*

It is recommended that those routes hereinbefore described which converge on the intersection of Market Street and Van Ness Avenue be interconnected by means of an elevated rotor to be constructed in Fell Street, Franklin Street, Twelfth Street and on acquired easement as shown east of Van Ness Avenue together with other acquired easements as may be required to provide a rotor of easy turning radius. See Figure 241.

*Summary of Limited Way Projects*

The projects above described forming a comprehensive Limited Way Plan for the City and County of San Francisco may be summarized as follows:

Type	Forty-Foot Divided Limited Way Structures		
	Mileage	Cost per Mile	Total
Elevated Limited Way (H10) .....	33.6	\$ 525,000	\$17,640,000
Limited Way at Grade.....	26.9	32,000	860,800
Depressed Limited Way.....	3.3	917,000	3,000,000
Tunnel .....	.81	2,000,000	1,620,000
Easements and Special Connections.....			3,000,000
	64.61		\$26,120,800

The above estimates are preliminary in character but are believed to be generous in the light of existing material and construction costs. They include adequate provision for foundations, railing, lighting, street adjustments, ramps, architectural and landscaping treatment and all necessary accessories.



*Comments on Costs*

Were it not for the fact that San Francisco is already provided with many of the elements of a basically sound street pattern the construction estimates as given above would be much higher. It will be noted that it has been possible to provide a Limited Way system with a total mileage of more than sixty-four miles, almost all of which may be constructed in existing right-of-way. This is due to the fact that many of the logical routes for Limited Way construction are of such width that this construction can be undertaken without the acquisition of private property. Furthermore, most of the mileage proposed lies upon routes and in areas where the character of the occupancy would not be detrimentally affected considering the character of structure proposed and the width of the existing street.

It has been possible to provide most of the benefits of true Limited Way construction by a special treatment of existing wide, grade streets. Thus 26.9 miles of the total 64-mile system are of this character of construction obtainable at an estimated cost of only \$32,000 per mile which is approximately 50% of the normal cost of curb setbacks for widening purposes under current conditions.

Elevated Limited Way construction constitutes 33.6 miles of the total 64-mile system or slightly more than 50% of the total. This construction is estimated at a cost of \$525,000 per mile. It should be noted that this elevated street Limited Way construction is not converted street capacity but is 100% new street capacity and the cost factors should therefore be compared not with typical street widening costs but with alternative methods of entirely new street construction through the acquisition of right-of-way, grading, paving, lighting and the provision of other accessories. The elevated Limited Way construction proposed herein does not disturb the continued use of any existing route over which it may be built. Because of this condition it may be considered as entirely new or superimposed traffic capacity.

*Capacity of Limited Way Construction*

In considering cost factors due attention must be paid to the relative capacities provided by widened grade routes or by newly constructed grade routes and by Limited Way construction. Exhaustive studies of relative discharge capacities of various types of roadway construction lead to the conclusion that unobstructed, free-flowing traffic

lanes such as those automatically provided by Limited Way construction, have a discharge capacity at speeds of 40 miles per hour or better of as many as fifteen hundred vehicles per hour. It is believed more conservative, however, to estimate Limited Way capacity, under normal operating conditions, at 1,200 vehicles per hour. Typical urban grade routes operated under either uncontrolled heavy traffic conditions or under traffic signal control rarely show a discharge capacity in excess of 600 vehicles per lane per hour. Thus a four lane Limited Way, that is two lanes in each direction, may be estimated as having a total discharge capacity of 4,800 vehicles per hour or a traffic carrying capacity equivalent to a newly constructed grade route with eight operating lanes.

An examination of traffic volume requirements in the City and County of San Francisco has led to the conclusion that all of the current demands, or those of the reasonably near future, can be accommodated satisfactorily upon four lane Limited Way construction. There are, indeed, certain portions of the proposed Limited Way system that could be adequately serviced so far as gross discharge capacity is concerned and at least for the present with two lane construction. This, however, is not recommended for two reasons. In the first place in a two lane divided Limited Way any vehicle failure would result in a complete blocking of one direction of flow. In the second place a four lane roadway is the minimum roadway that will provide for the normal functional requirements of traffic flow, as it is the least width of roadway that will provide for a segregation of relatively fast and relatively slow traffic moving in the same direction without an impingement upon the opposed roadway.

With respect to weight capacities the report proposes the use of the standard H10 load factor in design and construction. The use of the Limited Way system should be restricted to the vehicles of the private passenger car type or other passenger or commercial vehicles of similar weight and speed characteristics. With this class of traffic the H10 construction is more than adequate in strength. There has been no failure to give due consideration to trucking and other heavy commercial operations. This type of traffic will benefit directly and materially from Limited Way construction which will remove from main routes of travel, and related parallel streets, the principal load of present private passenger car and light commercial volume. The segregation of the light passenger car and commercial operation from trucking and heavy commercial operation is one of the fundamental steps in a complete

solution of the problem of traffic accidents and traffic congestion and both classes of traffic will instantly and materially benefit from the separated operating routes.

#### *Anticipated Use of Limited Way System*

Upon the major street system of San Francisco as it exists today and as it is graphically illustrated in Figure 55 there is daily operated in the twelve-hour day, from 7 A. M. to 7 P. M., a total of 900,000 car miles. The twenty-four hour day shows an average increase of 50% over the twelve-hour day, making a total of 1,350,000 car miles per day. This is exclusive of traffic movements in the triangle bounded by Harrison Street, the Embarcadero, California Street and Van Ness Avenue. There is no way of giving a highly accurate estimate as to what percentage of this total of car miles will be transferred to the Limited Way routes as proposed in the comprehensive Plan set forth in Figure 241. With due elimination of local traffic and heavy commercial traffic it may be safely computed that the balance of the through movements along the Limited Way routes will utilize the new structures and that the major proportions of other traffic originating within or destined to points within one-half mile of Limited Way routes will use those routes. Some proportion of this traffic at present follows existing grade routes parallel to those proposed for Limited Way construction and may be properly included in an estimate of total Limited Way utilization. This fact is clearly illustrated in customary practice in the East Bay district where substantial volumes of traffic between Oakland and Berkeley or more remote points follow a longer mileage route over the East Shore highway rather than the shorter mileage, although more time-consuming, route over existing streets. On the basis of the above considerations it may be estimated that the comprehensive Limited Way Plan as proposed for San Francisco, when constructed, will carry 670,000 car miles per twenty-four hour day or 49.6 per cent of the present total car mile movements in San Francisco. The traffic not carried will be primarily local in character, or that traffic feeding to or being distributed from the Limited Way system. All of this residual volume of traffic as well as trade and residential locations will be benefited greatly by the transfer of large volume, high speed movements, from grade routes to the Limited Way system.

The above computations are based exclusively upon a logical conversion of existing traffic from present grade route operation to the higher efficiency Limited Way operation. It does not attempt to credit

to Limited Way movements future normal increases in traffic volume throughout the community, though these will undoubtedly be substantial and will add materially to the percentage of total car mileage carried by the Limited Way system.

Attention is now directed to what may be termed "induced traffic." It has been experienced universally throughout the United States that wherever an unsatisfactory traffic facility was replaced with a higher type facility the latter converted traffic volume from the former, and in addition generated a substantial volume of entirely new traffic commonly called "induced traffic." This results from the fact that many users of motor vehicles having found the former low-type facility too inconvenient to warrant use, either did not make the trip between the points connected or used forms of transportation other than automotive.

In no place is the capacity of an improved traffic facility to induce traffic more clearly illustrated than in the case of the San Francisco-Oakland Bay Bridge. An examination of Chapter VII, "Estimate of Vehicular Traffic Available for the Bridge," in a "Report on Estimated Traffic and Earnings, San Francisco-Oakland Bay Bridge," July, 1936, by Coverdale and Colpritts, indicates that in the maximum year, 1930, the transbay ferries carried a total of 4,544,000 automobiles, though by the year 1935 the transbay automobile ferry crossings totaled only 3,937,000. If the San Francisco-Oakland Bay Bridge traffic were composed exclusively of converted ferry traffic it is apparent that it could not exceed the total of that traffic. The volume of "induced traffic" on the bridge is indicated by the fact that it is now operating at a rate of approximately 10,000,000 vehicles per annum. Of this present total 5,500,000 must be considered as entirely new or induced automobile traffic. In other words, the superior facilities provided by the bridge structure converted almost 100% of the ferry traffic into bridge traffic, and in addition, created or induced a new volume of traffic equal to more than 100% of the converted traffic. It is impossible to project a confident estimate of the amount of traffic by automobile not now existing, which would be induced by the Limited Way system. It would unquestionably be large, and in considering the relative facility provided might readily equal the "induced traffic" performance of the San Francisco-Oakland Bay Bridge. Automotive traffic has everywhere shown a startling vitality wherever obstructions to its free use have been removed. Large portions of the population in all cities have demonstrated their eagerness, and their economic ability, to provide their own private means of transporta-

tion and at their own cost wherever reasonably efficient facilities have been afforded. Naturally, any traffic volume induced by the Limited Way system would add to its relative importance as a carrier of the total car mileage of the community.

### *Speed Characteristics of Limited Ways*

Comprehensive studies of speed and obstruction in current traffic involving more than 2,200 miles of test observations show that the average over-all speed of vehicular traffic, during off-peak hours, is at present 17.35 miles per hour. The Limited Way structures proposed herein should be designed for safe operating speeds of 60 miles per hour, with the exception of those locations, comparatively few in number, where existing physical conditions or necessary connections require a type of construction placing a limitation upon maximum speeds. It is not recommended that traffic be permitted or required to operate at the full designed speed capacity as there should be a reasonable factor of safety. It is proposed, therefore, that a fixed speed, both minimum and maximum, be set for normal operating sections at 45 miles per hour. Vehicles incapable, or drivers unwilling, to operate at this speed should not be permitted the use of the Limited Way facilities. Designated speeds of less than 45 miles per hour should be indicated for the comparatively few and short sections of the system where conditions of safety require lesser speeds. The 45 mile per hour operating speed will deliver an over-all operating average speed of 40 miles per hour which is more than a 100% increase over existing average experience. In terms of time, for the entire Limited Way system, and with an estimated daily volume of 670,000 car miles, this will result in a daily saving of 21,860 car hours, or on an annual basis in a saving of 7,978,900 car hours. There is here an interesting analogy. The San Francisco-Oakland Bay Bridge is at present operating at the rate of 10,000,000 vehicles per year with an estimated saving of 26.4 minutes per trip (See Coverdale and Colpitts, p. 49) or on an annual basis in a saving of 4,400,000 car hours. Considering the investment of \$77,000,000 in the bridge structure, which motorists have so generously indicated their willingness to repay, and considering the estimated cost of a comprehensive Limited Way system at \$26,000,000, economic conclusions are obvious. Over and above all of these considerations, however, must be the recognition that even the present low facility of movement over grade streets is bought at a tremendous sacrifice in safety.



*Relative Safety Factors*

The prime consideration in any public improvement is that of the preservation of life and limb. Important as economic considerations may be they become negligible in comparison with humanitarian considerations.

It might be possible through elaborate and costly methods of education, enforcement and control to bring some further reduction in the rate of traffic accidents and fatalities in San Francisco. It is to be doubted, however, in the light of experience in San Francisco and other American cities, if any of these remedies can materially affect the problem. Such gains as may be achieved can scarcely be other than at the cost of a further retardation in facility of movement.

As has been pointed out earlier in this chapter, accidents and congestion arise from identical causal frictions in traffic movement. Roadway design which eliminates the causes of congestion automatically eliminates the causes of accidents. An examination of Chapter VII, setting forth the present record and analysis of traffic accidents and fatalities clearly supports the conclusion that Limited Way construction would largely eliminate the present causes of accidents.

For that portion of the total major city traffic flow, or approximately 50% of the whole, there would be no pedestrian accidents or fatalities as the Limited Ways are reserved exclusively for vehicular traffic and pedestrians have no reasonable access to the structures. (This statement does not apply completely to routes given Limited Way treatment at grade, to which pedestrians will still have access, though under protected conditions.) Of the total persons annually killed in San Francisco traffic accidents 71% are pedestrians struck by vehicles.

Turning now to personal injury accidents, including fatalities, current records show 71.5% take place at intersections. As there are no intersections on any Limited Way route this great group of accidents disappears insofar as the movements of traffic upon Limited Way structures are concerned. Accident records are not maintained in San Francisco in such a manner as to make possible an exhaustive analysis of the total proportion of accidents which would be rendered physically impossible by Limited Way construction. In addition to the elimination of intersectional accidents, however, it is apparent that no head-on collisions would be possible as vehicles moving in opposite directions are physically separated. There could be no collisions with parked vehicles,

persons, or fixed obstructions along the margin of the roadway, and the only classification of accidents of which any trace of cause remains is the so-called rear end collision. This type of accident would be eliminated almost entirely because of the free flowing character of the operating lanes, the provision of retarding and accelerating lanes, the segregation of relatively fast and relatively slow vehicles, the elimination of street cars and heavy commercial vehicles from the Limited Way routes and from the resultant possibility of establishing a uniform rate of operation. These conclusions are fully verified by the almost perfect safety record of the Holland Tunnel and the elevated Westside Highway in New York City.

#### *Architectural Design of Limited Ways*

In the design of structures of high utility it is necessary also to give due consideration to the amenities of the structures themselves and to those of the areas traversed.

Tunnel construction and covered, depressed Limited Ways need no consideration as the route is out of view. Open, full or semi-depressed routes lend themselves naturally to landscaping and can be made quite as attractive as any parkway or park drive. This treatment has been illustrated for many years in the New York Westchester Park system and indeed in all parts of the country.

Embanked Limited Way construction, such as is proposed in Funston Avenue, affords a natural base for any desired form of landscaping. The general appearance of such a route and the possibilities of pleasing treatment are already illustrated in the Great Highway. The Limited Way treatment of grade routes makes possible an artistic treatment not possible in routes with wide unbroken pavements. The medial dividing strip and the turning islands may be planted or otherwise improved.

It is, however, in the design of elevated Limited Ways that the greatest need as well as the greatest opportunity is found for the application of artistic functional design and the utilization of modern forms and materials, many of which have become available only in very recent years.

It is beyond the scope of this report to present detailed structural or architectural designs. Technicians of national repute in both of these fields are generously available in San Francisco. In order, however, that there may be projected a type of design, within the functional operating

requirements of Limited Way construction and within the cost estimates, Figures 257-259 are presented. The report is indebted to Mr. Elmo Boldemann for this design. There are, of course, an infinite variety of designs providing similar pleasing appearance. In general, design should provide light, freedom from noise, cleanliness and should be based as is all modern, dynamic streamline design upon the conception of speed.

In addition to the advantages accruing through the removal of hazardous and congestive movements of through traffic, and the provision of maximum accessibility abutting property, a correctly designed elevated Limited Way should actually add to the total architectural values of the areas traversed.

#### *Comprehensive Character of Plan*

The comprehensive Limited Way Plan proposed in this report is in a true sense a city-wide plan. It is not designed for the benefit of any one part of the city but for all parts of the city and, indeed, for the benefit of the entire region. Due consideration has been given to the stabilization of values in all parts of the community and particularly to the provision of internal facilities to stabilized community values in the light of competitive attractions made potent by the two bridges.

By careful design it has been possible to project a Limited Way system providing direct connections to all of the important gateways to the city including the two bridges and a dual connection between those bridges and, in addition, to serve so comprehensively the needs of the population of San Francisco itself that there is only 16% of the territory within the incorporated limits of the City and County of San Francisco that lies more than one-half mile from a Limited Way route providing direct connections to the normal areas of destinations and no portion of the built-up territory of San Francisco, or that which may probably be built, that lies more than one mile from a Limited Way structure. It is beyond the scope of this report to examine legislative policies with respect to financing but due considerations should be given to the fact that the Plan proposed herein is not only city-wide in its benefits but regional and state-wide as well.

#### *Related Improvement*

A critical examination of the Limited Way Plan leads to the conclusion that as constructed it will largely eliminate the necessity for a

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continuing plan of wide-spread and costly street opening and widenings. The major through movements of the community will be carried upon Limited Way routes and grade routes will serve primarily as local connectors or as feeders or distributors to the Limited Way system. In Figure 261 are shown existing grade routes, logically located and of adequate width to serve these primary functions. The elimination of the need for the partial improvement of a very large number of grade routes should go far toward the financing of the Limited Way Plan.





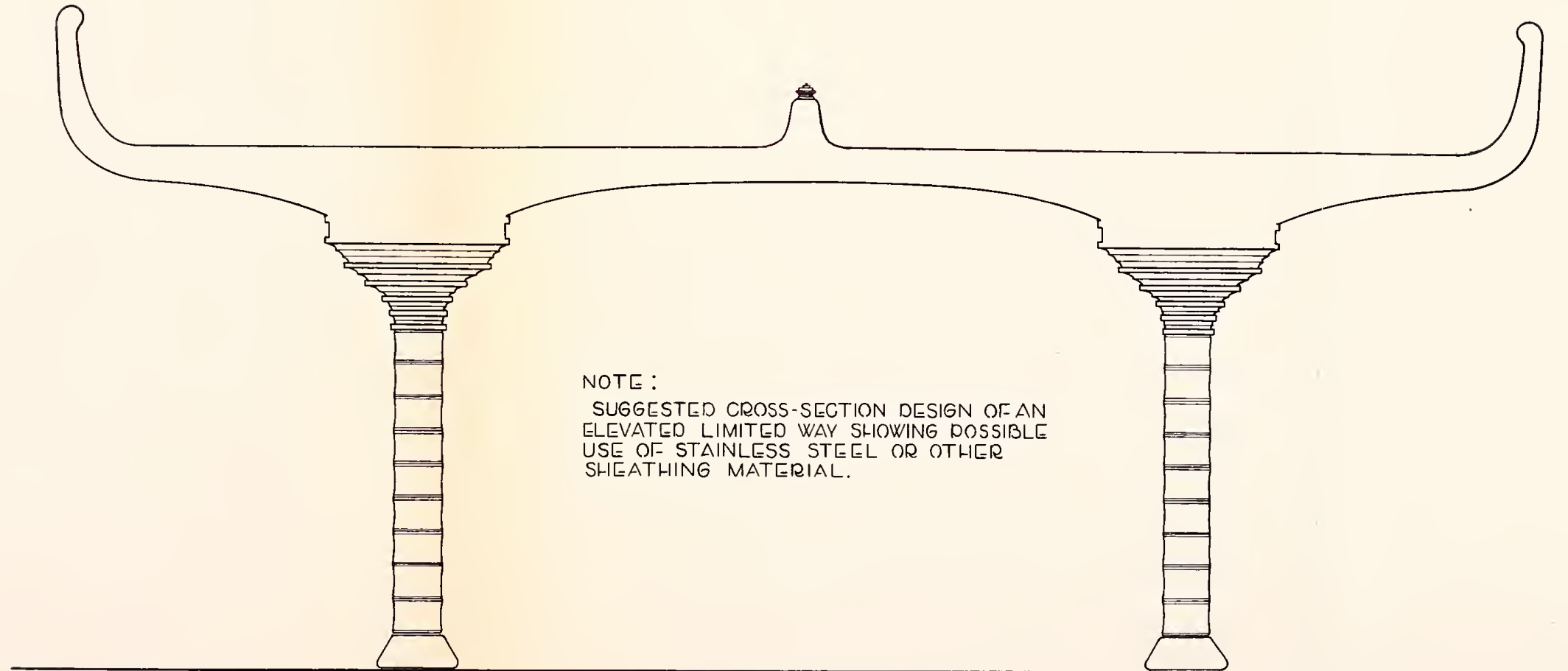
# SAN FRANCISCO TRAFFIC SURVEY

W. R. A. PROJECT 6108-5863

## A SUGGESTED DESIGN OF AN ELEVATED LIMITED WAY

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT





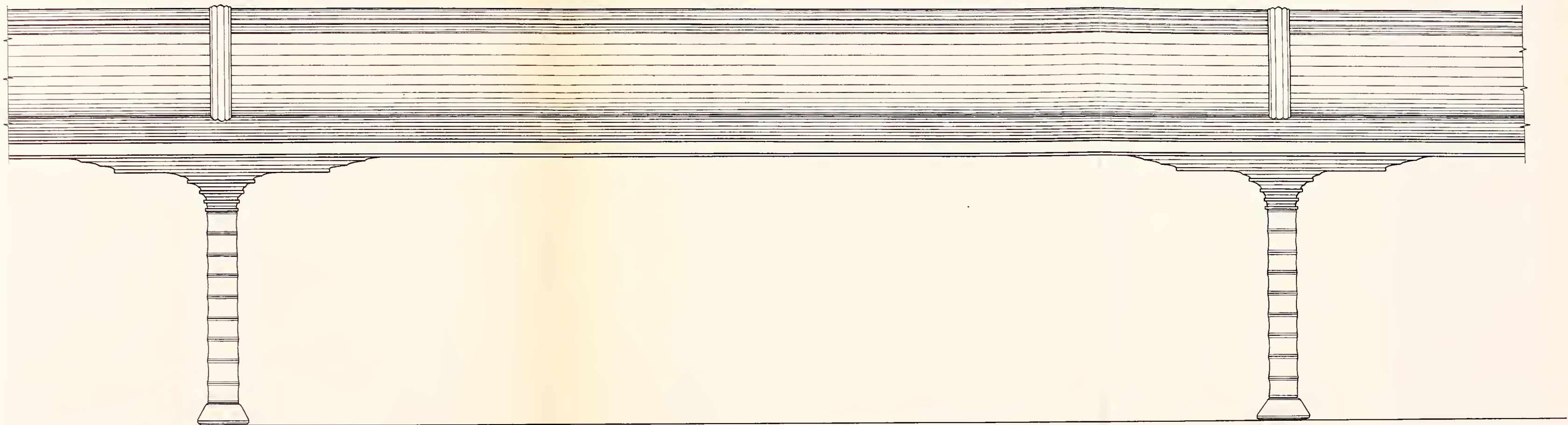
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### NOTE:

SUGGESTED LINEAL DESIGN OF AN  
ELEVATED LIMITED WAY SHOWING POSSIBLE  
USE OF STAINLESS STEEL OR OTHER  
SHEATHING MATERIAL.





# SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108-5863

## EXISTING DISTRIBUTOR SYSTEM FOR LIMITED WAY PLAN

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT

SCALE



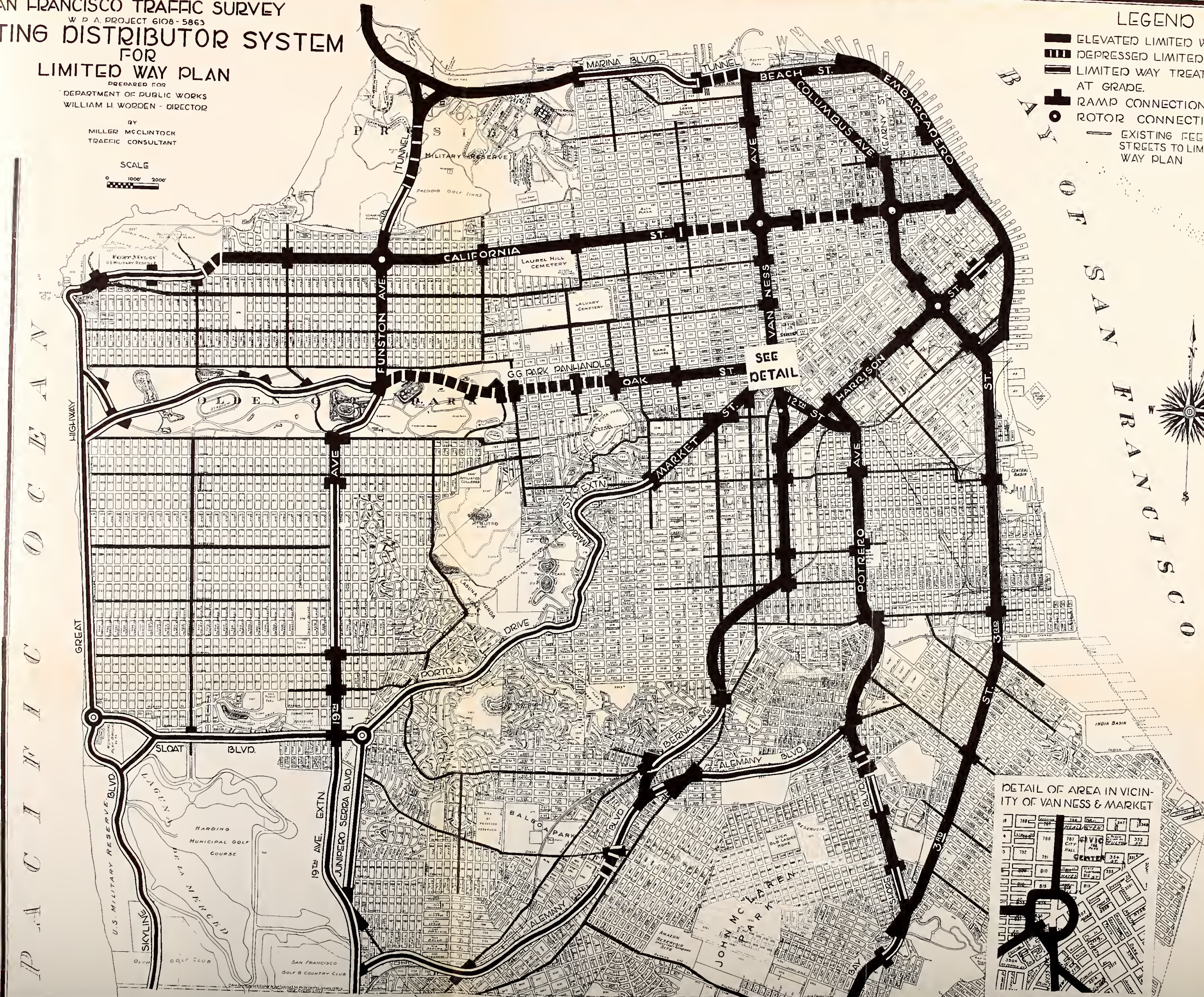
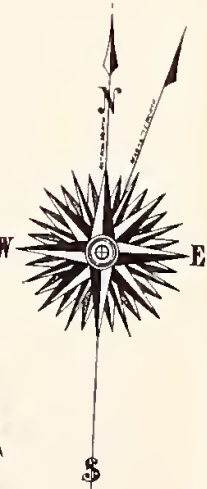
GOLDEN GATE

### LEGEND

- ELEVATED LIMITED WAY.
- DEPRESSED LIMITED WAY.
- LIMITED WAY TREATMENT AT GRADE.
- RAMP CONNECTIONS.
- ROTOR CONNECTIONS.
- EXISTING FEEDER STREETS TO LIMITED WAY PLAN

PACIFIC OCEAN

SAN FRANCISCO



DETAIL OF AREA IN VICINITY OF VAN NESS & MARKET







APPENDIX I  
VEHICLE VOLUME FLOW

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

ALL INTERSECTIONS COUNTED FOR 12 HOURS, FROM 7 A. M. TO 7 P. M.  
EXCEPT WHEN OTHERWISE NOTED. INTERSECTIONS MARKED  
WITH ASTERISK (\*) INDICATE ONE-WAY TRAFFIC  
BY ORDINANCE.

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
ACTON & MISSION STS. & SICKLES AVE.....					5614
Acton Street .....	317				
Mission Street .....			2356	2309	
Sickles Avenue .....		632			
ALAMEDA & HARRISON STS.....					8303
Alameda Street .....				1723	
Harrison Street .....	2934	3646			
ALEMANY & BAYSHORE BLVDS.....					27729
Alemany Boulevard .....			5721		
Bayshore Boulevard .....	8768	13240			
ALEMANY & JUNIPERO SERRA BLVDS.....					7469
Alemany Boulevard .....				1071	
Junipero Serra Boulevard.....	3042	3356			
ALEMANY BLVD. & OCEAN AVE.....					13142
Alemany Boulevard .....	4401	5711			
Ocean Avenue .....			2013	1017	
ALEMANY BLVD. & ONONDAGA AVE.....					9461
Alemany Boulevard .....	4051	4176			
Onondaga Avenue .....			656	578	
ALEMANY BLVD., PLYMOUTH AVE., SAGAMORE ST., SAN JOSE & SICKLES AVES.....					9051
Alemany Boulevard .....	N.E.				868
Alemany Boulevard .....	S.W.				2172
Plymouth Avenue .....		647			
Sagamore Street .....			705		
San Jose Avenue .....	2486				
San Jose Avenue .....		1486			
Sickles Avenue .....				687	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
ALEMANY BLVD. & SENECA AVE.....					9195
Alemany Blvd.....	4157	4220			
Seneca Avenue.....			368	450	
ALEMANY BLVD. & SILVER AVE.....					12143
Alemany Blvd.....	6185	5252			
Silver Avenue.....				706	
ANDOVER ST. & CORTLAND AVE.....					2787
Andover Street.....	376	67			
Cortland Avenue.....			1115	1229	
ANDOVER ST. & CRESCENT AVE.....					1213
Andover Street.....	57	241			
Crescent Avenue.....			485	430	
ANZA ST. & ARGUELLO BLVD.....					7812
Anza Street.....			979	666	
Arguello Blvd.....	3111	3056			
ANZA ST. & 18TH AVE.....					2406
Anza Street.....			647	810	
18th Avenue.....	396	553			
ANZA ST. & 8TH AVE.....					2820
Anza Street.....			783	716	
8th Avenue.....	763	558			
ANZA ST. & MASONIC AVE.....					9347
Anza Street.....			582		
Masonic Avenue.....	4438	4327			
ANZA ST. & 25TH AVE.....					3009
Anza Street.....			210	591	
25th Avenue.....	1342	866			
ARGUELLO BLVD. & CALIFORNIA STREET.....					11307
Arguello Blvd.....	2385	2969			
California Street.....			2346	3607	
ARGUELLO BLVD. & CLAY ST.....					7301
Arguello Blvd.....	3369	2897			
Clay Street.....				1035	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
ARGUELLO BLVD. & FULTON ST.	.....	.....	.....	.....	9338
Arguello Blvd.....	.....	2267	.....	.....	.....
Fulton Street.....	.....	.....	3451	2634	.....
Golden Gate Park Drive.....	986	.....	.....	.....	.....
ARGUELLO & GEARY BLVDS.	.....	.....	.....	.....	17659
Arguello Blvd.....	2920	3096	.....	.....	.....
Geary Blvd.....	.....	.....	5521	6122	.....
ARGUELLO BLVD. & PARNASSUS AVENUE	.....	.....	.....	.....	3756
Arguello Blvd.....	.....	40	.....	.....	.....
Parnassus Avenue.....	.....	.....	1922	1794	.....
ARGUELLO BLVD., BALBOA AND TURK STS.	.....	.....	.....	.....	11208
Arguello Blvd.....	2654	3165	.....	.....	.....
Balboa Street.....	.....	.....	2012	.....	.....
Turk Street.....	.....	.....	.....	3377	.....
ARMY & DOLORES STS.	.....	.....	.....	.....	4136
Army Street.....	.....	.....	512	713	.....
Dolores Street.....	1488	1423	.....	.....	.....
ARMY ST. & EVANS AVE.	.....	.....	.....	.....	5932
Army Street.....	.....	.....	2846	2003	.....
Evans Avenue.....	1083	.....	.....	.....	.....
ARMY & GUERRERO STS.	.....	.....	.....	.....	5744
Army Street.....	.....	.....	607	1142	.....
Guerrero Street.....	1888	2107	.....	.....	.....
ARMY & HARRISON STS.	.....	.....	.....	.....	8180
Army Street.....	.....	.....	3924	3181	.....
Harrison Street.....	153	922	.....	.....	.....
ARMY, CAPP & MISSION STS.	.....	.....	.....	.....	16358
Army Street.....	.....	.....	2977	4348	.....
Capp Street.....	.....	32	.....	.....	.....
Mission Street.....	5063	3938	.....	.....	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
ARMY ST. & POTRERO AVE.....	.....	.....	.....	.....	32084
Army Street.....	.....	.....	5267	2183	.....
Potrero Avenue.....	14264	10370	.....	.....	.....
ARMY & SANCHEZ STS.....	.....	.....	.....	.....	1429
Army Street.....	.....	.....	138	202	.....
Sanchez Street.....	559	530	.....	.....	.....
ARMY ST. & SAN JOSE AVE.....	.....	.....	.....	.....	7246
Army Street.....	.....	.....	934	2246	.....
San Jose Avenue.....	2941	1125	.....	.....	.....
ARMY & THIRD STS.....	.....	.....	.....	.....	13473
Army Street.....	.....	.....	1894	.....	.....
Third Street.....	5085	6494	.....	.....	.....
ARMY & VALENCIA STS.....	.....	.....	.....	.....	11695
Army Street.....	.....	.....	1956	2587	.....
Valencia Street.....	3742	3410	.....	.....	.....
ARMY ST. & VAN NESS AVE. SO.....	.....	.....	.....	.....	10470
Army Street.....	.....	.....	4111	3243	.....
Van Ness Ave. South.....	.....	3116	.....	.....	.....
ASHBURY & CLAYTON STS.....	.....	.....	.....	.....	4767
Ashbury Street.....	.....	920	.....	.....	.....
Clayton Street.....	2276	1571	.....	.....	.....
ASHBURY & FELL STS.....	.....	.....	.....	.....	9195
Ashbury Street.....	.....	258	.....	.....	.....
Fell Street.....	.....	.....	4552	4385	.....
ASHBURY & FREDERICK STS.....	.....	.....	.....	.....	3210
Ashbury Street.....	899	651	.....	.....	.....
Frederick Street.....	.....	.....	876	784	.....
ASHBURY & HAYES STS.....	.....	.....	.....	.....	1939
Ashbury Street.....	205	180	.....	.....	.....
Hayes Street.....	.....	.....	699	855	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
ASHBURY & OAK STS.....					6928
Ashbury Street.....	675	84			
Oak Street.....			2449	3720	
ASHBURY & WALLER STS.....					1778
Ashbury Street.....	397	274			
Waller Street.....			796	311	
ASHTON & GRAFTON AVES.....					297
Ashton Avenue.....	16	59			
Grafton Avenue.....			92	130	
ASHTON & HOLLOWAY AVES.....					943
Ashton Avenue.....	71	214			
Holloway Avenue.....			370	288	
ASHTON & OCEAN AVES.....					6971
Ashton Avenue.....	531				
Ocean Avenue.....			3144	3296	
BAKER ST., BUENA VISTA AVE. AND HAIGHT ST.....					5084
Baker Street.....		537			
Buena Vista Avenue.....	545				
Haigh Street.....			2188	1814	
BAKER & FELL STS.....					13115
Baker Street.....	2626	2053			
Fell Street.....			3655	4781	
BAKER & FULTON STS.....					8297
Baker Street.....	1382	588			
Fulton Street.....			2836	3491	
BAKER & OAK STS.....					9347
Baker Street.....	550	2910			
Oak Street.....			2443	3444	
BALBOA ST. & 8TH AVE.....					4581
Balboa Street.....			1655	1664	
8th Avenue.....	691	571			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BALBOA ST. & FORTY-FIFTH AVE. ....	.....	.....	.....	.....	1859
Balboa Street .....	.....	.....	615	841	.....
Forty-fifth Avenue .....	314	89	.....	.....	.....
BALBOA ST. & FUNSTON AVE. ....	.....	.....	.....	.....	3165
Balboa Street .....	.....	.....	1413	1422	.....
Funston Avenue .....	148	182	.....	.....	.....
BALBOA ST. & TENTH AVENUE .....	.....	.....	.....	.....	4444
Balboa Street .....	.....	.....	1632	1632	.....
Tenth Avenue .....	595	585	.....	.....	.....
BALBOA ST. & THIRTY-THIRD AVE. ....	.....	.....	.....	.....	3225
Balboa Street .....	.....	.....	1399	1051	.....
Thirty-third Avenue .....	177	598	.....	.....	.....
BALBOA ST. & THIRTY-NINTH AVE. ....	.....	.....	.....	.....	2761
Balboa Street .....	.....	.....	1236	1179	.....
Thirty-ninth Avenue .....	157	189	.....	.....	.....
BALBOA ST. & TWENTY-FOURTH AVE. ....	.....	.....	.....	.....	3218
Balboa Street .....	.....	.....	1238	1184	.....
Twenty-fourth Avenue .....	218	578	.....	.....	.....
BALCETA AVE. & LAGUNA HONDA BLVD. ....	.....	.....	.....	.....	1742
Balceta Avenue .....	.....	.....	33	.....	.....
Balceta Avenue .....	.....	.....	.....	39	.....
Laguna Honda Boulevard.....N.W. ....	.....	.....	.....	.....	884
Laguna Honda Boulevard.....S.E. ....	.....	.....	.....	.....	786
BALCETA & VASQUEZ AVES. ....	.....	.....	.....	.....	277
Balceta Avenue .....	.....	.....	.....	49	.....
Vasquez Avenue .....	.....	.....	.....	.....	126
Vasquez Avenue .....	.....	.....	.....	.....	102
BATTERY, BUSH, FIRST & MARKET STS. ....	.....	.....	.....	.....	21546
Battery Street .....	.....	3563	.....	.....	.....
Bush Street .....	.....	.....	2146	.....	.....
Bush Street .....	.....	.....	.....	654	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
First Street .....N.W. ....				5960	
Market Street .....N.E. ....				5074	
Market Street .....S.W. ....				4149	
<b>BATTERY &amp; CALIFORNIA STS.</b> .....					14548
Battery Street ..... 4440	3132				
California Street .....		3884	3092		
<b>*BATTERY &amp; CLAY STS.</b> .....					8625
Battery Street ..... 3479	2616				
Clay Street .....			2527	3	
<b>BATTERY ST., EMBARCADERO &amp; LOMBARD ST.</b> .....					14117
Battery Street ..... 1227					
Embarcadero .....N.W. ....				6233	
Embarcadero .....S.E. ....				6395	
Lombard Street .....			262		
<b>*BATTERY &amp; JACKSON STS.</b> .....					7196
Battery Street ..... 2736	2058				
Jackson Street .....			2394	8	
<b>BATTERY &amp; PACIFIC STS.</b> .....					7272
Battery Street ..... 2480	1899				
Pacific Street .....			1405	1488	
<b>BAY ST., CERVANTES BLVD. &amp; FILLMORE ST.</b> .....					8598
Bay Street ..... 2940					
Cervantes Boulevard .....S.E. ....				2753	
Fillmore Street ..... 1733					
Fillmore Street .....	1172				
<b>BAY ST., COLUMBUS AVE. &amp; JONES ST.</b> .....					9280
Bay Street ..... 4520					
Bay Street ..... 2071					
Columbus Avenue .....N.W. ....				1175	
Columbus Ave. ....S.E. ....				1006	
Jones Street ..... 245					
Jones Street .....	263				

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BAY ST., THE EMBARCADERO & MONTGOMERY ST.					13124
Bay Street			2883		
Embarcadero N.W.				6705	
Embarcadero S.E.				3490	
Montgomery Street	46				
BAY & HYDE STS.					9359
Bay Street			4734	3920	
Hyde Street	334	371			
BAY & LAGUNA STS.					10194
Bay Street			3986	4251	
Laguna Street	761	1196			
BAY & POWELL STS.					6107
Bay Street			2483	2518	
Powell Street	626	480			
BAY & STOCKTON STS.					5765
Bay Street			2521	2696	
Stockton Street	433	115			
BAY ST. & VAN NESS AVE.					16495
Bay Street			5059	3787	
Van Ness Avenue	4578	3071			
BAYSHORE BLVD. & CORTLAND AVE.					29314
Bayshore Boulevard	14014	14322			
Cortland Avenue			978		
BAYSHORE BLVD. & OAKDALE AVE.					30481
Bayshore Boulevard	14073	15084			
Oakdale Avenue				1324	
BAYSHORE BLVD. & PAUL AVE.					14950
Bayshore Boulevard	6994	7153			
Paul Avenue			132	671	
BAYSHORE BLVD. & SAN BRUNO AVE.					28026
Bayshore Boulevard	14121	13695			
San Bruno Avenue			210		



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BAYSHORE BLVD. & THIRD ST.....	.....	.....	.....	.....	20011
Bayshore Boulevard .....N.W.	.....	.....	.....	10032	.....
Bayshore Boulevard .....S.E.	.....	.....	.....	6811	.....
Third Street .....N.E.	.....	.....	.....	258	.....
Third Street .....S.W.	.....	.....	.....	2910	.....
BAYSHORE BLVD. & THORNTON AVE. ....	.....	.....	.....	.....	16552
Bayshore Boulevard ..... 7949	7366	.....	.....	.....	.....
Thornton Avenue ..... 475	762	.....	.....	.....	.....
BAYSHORE BLVD. & VISITACION AVE. ....	.....	.....	.....	.....	18178
Bayshore Boulevard ..... 9090	8704	.....	.....	.....	.....
Visitacion Avenue ..... 273	111	.....	.....	.....	.....
BEALE & BRANNAN STS. & THE EMBARCADERO .....	.....	.....	.....	.....	18651
Beale Street ..... 1721	.....	.....	.....	.....	.....
Brannan Street ..... 2311	.....	.....	.....	.....	.....
The Embarcadero ..... 6832	7787	.....	.....	.....	.....
BEALE & FOLSOM STS.....	.....	.....	.....	.....	6640
Beale Street ..... 1854	1981	.....	.....	.....	.....
Folsom Street ..... 1591	1214	.....	.....	.....	.....
BEALE & HARRISON STS.....	.....	.....	.....	.....	5800
Beale Street ..... 1659	.....	.....	.....	.....	.....
Harrison Street ..... 1761	2380	.....	.....	.....	.....
BEALE & HOWARD STS.....	.....	.....	.....	.....	12627
Beale Street ..... 2051	2217	.....	.....	.....	.....
Howard Street ..... 4702	3657	.....	.....	.....	.....
BEALE & MISSION STS.....	.....	.....	.....	.....	5915
Beale Street ..... 693	1186	.....	.....	.....	.....
Mission Street ..... 1979	2057	.....	.....	.....	.....
(6-hour A. M. count)	.....	.....	.....	.....	.....
BERNAL AVE. & BOSWORTH ST.....	.....	.....	.....	.....	10104
Bernal Avenue ..... 4693	4704	.....	.....	.....	.....
Bosworth Street ..... 421	286	.....	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>BERNAL AVE., DOLORES ST. &amp; SAN JOSE AVE.</b>					10583
Bernal Avenue .....	2544				
Dolores Street .....		2860			
San Jose Avenue.....S.W.				5179	
<b>BERNAL AVE., MONTEREY BLVD. &amp; SAN JOSE AVE.</b>					13185
Bernal Avenue .....S.W.				6154	
Monterey Boulevard .....			2858		
San Jose Avenue.....	4173				
<b>BERNAL &amp; RICHLAND AVES.</b>					13010
Bernal Avenue .....	6059	6597			
Richland Avenue .....			179	175	
<b>BERRY &amp; SIXTH STS.</b>					3862
Berry Street .....			1233	1692	
Sixth Street .....	487	450			
<b>BERRY &amp; THIRD STS.</b>					19732
Berry Street .....			2240	6171	
Third Street .....	7505	3817			
<b>BOCANA ST. &amp; CORTLAND AVE.</b>					2417
Bocana Street .....	162	98			
Cortland Avenue .....			1057	1100	
<b>BOSWORTH &amp; DIAMOND STS.</b>					3054
Bosworth Street .....			297	651	
Diamond Street .....	1144	962			
<b>BOWDOIN ST. &amp; SILVER AVE.</b>					1121
Bowdoin Street .....	108	40			
Silver Avenue .....			391	582	
<b>BRANNAN &amp; EIGHTH STS.</b>					11967
Brannan Street .....			4007	4096	
Eighth Street .....	1485	2379			
<b>BRANNAN &amp; FOURTH STS.</b>					12631
Brannan Street .....			4507	3660	
Fourth Street .....	1975	2489			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BRANNAN & SIXTH STS.....	.....	.....	.....	.....	13975
Brannan Street .....	.....	.....	6222	4130	.....
Sixth Street .....	1386	2237	.....	.....	.....
BRANNAN & DIVISION STS., POTRERO AVE. & TENTH ST. ....	.....	.....	.....	.....	29068
Brannan Street .....S.W. ....	.....	.....	.....	4092	.....
Division Street .....	.....	.....	2775	.....	.....
Division Street .....	.....	.....	.....	2427	.....
Potrero Avenue .....12349 .....	.....	.....	.....	.....	.....
Tenth Street .....S.E. ....	.....	.....	.....	7425	.....
BRANNAN & THIRD STS.....	.....	.....	.....	.....	6588
Brannan Street .....	.....	.....	926	1418	.....
Third Street ..... (6-hour P. M. count) .....	1978	2266	.....	.....	.....
BRIGHTON & OCEAN AVES.....	.....	.....	.....	.....	6089
Brighton Avenue .....286 .....	.....	.....	.....	.....	.....
Ocean Avenue .....	.....	.....	3001	2802	.....
BROAD ST. & PLYMOUTH AVE.....	.....	.....	.....	.....	1380
Broad Street .....251 .....	.....	133	.....	.....	.....
Plymouth Avenue .....	.....	.....	577	419	.....
BROADWAY, COLUMBUS & GRANT AVES.....	.....	.....	.....	.....	14432
Broadway.....	.....	.....	1913	.....	.....
Broadway.....	.....	.....	.....	2903	.....
Columbus Avenue.....N.W. ....	.....	.....	.....	4029	.....
Columbus Avenue.....S.E. ....	.....	.....	.....	4667	.....
Grant Avenue .....	.....	920	.....	.....	.....
BROADWAY & FILLMORE ST.....	.....	.....	.....	.....	1627
Broadway .....	.....	.....	395	563	.....
Fillmore Street .....	404	265	.....	.....	.....
BROADWAY & GOUGH ST.....	.....	.....	.....	.....	4601
Broadway .....	.....	.....	1467	1809	.....
Gough Street .....	581	744	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BROADWAY & LAGUNA ST.....	.....	.....	.....	.....	3961
Broadway .....	.....	.....	1541	1670	.....
Laguna Street .....	359	391	.....	.....	.....
BROADWAY & LARKIN ST.....	.....	.....	.....	.....	7465
Broadway .....	.....	.....	1754	1365	.....
Larkin Street .....	2507	1839	.....	.....	.....
BROADWAY & LEAVENWORTH ST.....	.....	.....	.....	.....	3450
Broadway .....	.....	.....	824	242	.....
Leavenworth Street.....	1567	817	.....	.....	.....
BROADWAY & LYON ST.....	.....	.....	.....	.....	475
Broadway .....	.....	.....	116	231	.....
Lyon Street .....	128	.....	.....	.....	.....
BROADWAY & SCOTT ST.....	.....	.....	.....	.....	3470
Broadway .....	.....	.....	215	296	.....
Scott Street .....	1486	1473	.....	.....	.....
BROADWAY & TAYLOR ST.....	.....	.....	.....	.....	629
Broadway .....	.....	.....	134	.....	.....
Taylor Street .....	335	160	.....	.....	.....
BROADWAY & VAN NESS AVE.....	.....	.....	.....	.....	18984
Broadway .....	.....	.....	1489	2236	.....
Van Ness Avenue.....	6959	8300	.....	.....	.....
BRYANT & EIGHTH STS.....	.....	.....	.....	.....	13663
Bryant Street .....	.....	.....	5048	3024	.....
8th Street .....	2305	3286	.....	.....	.....
BRYANT & ELEVENTH STS.....	.....	.....	.....	.....	5637
Bryant Street .....	1550	.....	.....	.....	.....
Bryant Street .....	.....	.....	.....	2122	.....
Eleventh Street .....	950	.....	.....	.....	.....
Eleventh Street .....	.....	1015	.....	.....	.....
BRYANT & FIFTH STS.....	.....	.....	.....	.....	13104
Bryant Street .....	.....	.....	5095	1871	.....
Fifth Street .....	2850	3288	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BRYANT & SEVENTEENTH STS.....					7220
Bryant Street .....	1251	1324			
Seventeenth Street .....			2248	2397	
BRYANT & THIRD STS.....					13697
Bryant Street .....			1890	1123	
Third Street .....	5334	5350			
BRYANT & TWENTY-SECOND STS. ....					3920
Bryant Street .....	1422	1264			
Twenty-second Street .....			539	695	
BRYANT & TWENTY-FOURTH STS. ....					5173
Bryant Street .....	1234	1121			
Twenty-fourth Street .....			1480	1338	
BRYANT & TWENTY-SIXTH STS.....					2850
Bryant Street .....	1087	1089			
Twenty-sixth Street .....			513	161	
BUCHANAN & BUSH STS.....					7401
Buchanan Street .....	1142	686			
Bush Street .....			2712	2861	
BUCHANAN ST., DUBOCE AVE., & MARKET ST.....					22459
Buchanan Street .....		967			
Duboce Avenue .....			2850		
Duboce Avenue .....				1625	
Market Street .....N.E.				9146	
Market Street .....S.W.				7871	
BUCHANAN & TURK STS.....					8945
Buchanan Street.....	2002	1388			
Turk Street.....			3298	2257	
BUSH & DIVISADERO STS.....					5751
Bush Street.....			1500	1925	
Divisadero Street.....	1311	1015			
BUSH & FILLMORE STS.....					8096
Bush Street.....			2326	2858	
Fillmore Street.....	1329	1583			



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
BUSH & FRANKLIN STS.....	.....	.....	.....	.....	15410
Bush Street.....	.....	.....	4064	3397	.....
Franklin Street.....	3712	4247	.....	.....	.....
BUSH ST. & GRANT AVE.....	.....	.....	.....	.....	12847
Bush Street.....	.....	.....	4117	4149	.....
Grant Avenue.....	2883	1698	.....	.....	.....
BUSH & HYDE STS.....	.....	.....	.....	.....	11888
Bush Street.....	.....	.....	4136	4267	.....
Hyde Street.....	1881	1604	.....	.....	.....
BUSH & JONES STS.....	.....	.....	.....	.....	11853
Bush Street.....	.....	.....	4605	4653	.....
Jones Street.....	1605	990	.....	.....	.....
BUSH & KEARNY STS.....	.....	.....	.....	.....	16324
Bush Street.....	.....	.....	4098	3722	.....
Kearny Street.....	4336	4168	.....	.....	.....
BUSH & MASON STS.....	.....	.....	.....	.....	12640
Bush Street.....	.....	.....	4599	4647	.....
Mason Street.....	2308	1086	.....	.....	.....
BUSH & MONTGOMERY STS.....	.....	.....	.....	.....	16568
Bush Street.....	.....	.....	3557	3472	.....
Montgomery Street.....	4512	5027	.....	.....	.....
BUSH & POLK STS.....	.....	.....	.....	.....	15989
Bush Street.....	.....	.....	4220	3891	.....
Polk Street.....	3950	3928	.....	.....	.....
BUSH & SANSOME STS.....	.....	.....	.....	.....	9943
Bush Street.....	.....	.....	3647	2730	.....
Sansome Street.....	931	2635	.....	.....	.....
BUSH & STOCKTON STS.....	.....	.....	.....	.....	8612
Bush Street.....	.....	.....	4167	4060	.....
Stockton Street.....	.....	385	.....	.....	.....
BUSH ST. & VAN NESS AVE.....	.....	.....	.....	.....	24895
Bush Street.....	.....	.....	3687	3701	.....
Van Ness Avenue.....	8614	8893	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CABRILLO ST. & 8TH AVE.....	.....	.....	.....	.....	3181
Cabrillo Street.....	.....	.....	1134	756	.....
8th Avenue .....	762	529	.....	.....	.....
CABRILLO ST. & 47TH AVE.....	.....	.....	.....	.....	1214
Cabrillo Street.....	.....	.....	428	486	.....
47th Avenue.....	132	168	.....	.....	.....
CABRILLO ST. & 25TH AVE.....	.....	.....	.....	.....	4486
Cabrillo Street.....	.....	.....	913	940	.....
25th Avenue.....	1636	997	.....	.....	.....
CALIFORNIA ST., CHERRY ST., & JORDAN AVE.....	.....	.....	.....	.....	8054
California Street.....	.....	.....	3355	3976	.....
Cherry Street.....	.....	351	.....	.....	.....
Jordan Avenue.....	372	.....	.....	.....	.....
CALIFORNIA & DAVIS STS.....	.....	.....	.....	.....	8387
California Street.....	.....	.....	3338	2247	.....
Davis Street.....	1493	1309	.....	.....	.....
CALIFORNIA, DRUMM, MAIN, MARKET & SPEAR STS.....	.....	.....	.....	.....	18450
California Street .....	.....	.....	2027	.....	.....
Drumm Street .....	.....	2448	.....	.....	.....
Main Street .....	.....	N.W.	.....	.....	2121
Market Street at Main Street.....	.....	N.E.	.....	.....	4028
Market Street at Spear Street.....	.....	N.E.	.....	.....	2869
Market Street at California St.....	.....	S.W.	.....	.....	4433
Spear Street .....	.....	N.W.	.....	.....	524
CALIFORNIA ST. & 8TH AVE.....	.....	.....	.....	.....	6097
California Street .....	.....	.....	2530	2894	.....
8th Avenue .....	429	244	.....	.....	.....
CALIFORNIA & FILLMORE STS.....	.....	.....	.....	.....	11889
California Street .....	.....	.....	4784	4244	.....
Fillmore Street .....	1252	1609	.....	.....	.....
CALIFORNIA & FRANKLIN STS.....	.....	.....	.....	.....	17456
California Street .....	.....	.....	5318	5190	.....
Franklin Street .....	3758	3190	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CALIFORNIA ST. & FUNSTON AVE. ....	.....	.....	.....	.....	4835
California Street .....	.....	.....	2118	2746	.....
Funston Avenue .....	203	169	.....	.....	.....
CALIFORNIA & HYDE STS.....	.....	.....	.....	.....	14414
California Street .....	.....	.....	6250	5208	.....
Hyde Street .....	1661	1295	.....	.....	.....
CALIFORNIA & JONES STS.....	.....	.....	.....	.....	13554
California Street .....	.....	.....	6414	5918	.....
Jones Street .....	492	730	.....	.....	.....
CALIFORNIA & KEARNY STS.....	.....	.....	.....	.....	14232
California Street .....	.....	.....	3622	3737	.....
Kearny Street .....	3646	3227	.....	.....	.....
CALIFORNIA & LAGUNA STS.....	.....	.....	.....	.....	10897
California Street .....	.....	.....	4976	4968	.....
Laguna Street .....	400	553	.....	.....	.....
CALIFORNIA & MASON STS.....	.....	.....	.....	.....	14366
California Street.....	.....	.....	6635	5645	.....
Mason Street.....	908	1183	.....	.....	.....
CALIFORNIA & MONTGOMERY STREETS.....	.....	.....	.....	.....	15111
California Street.....	.....	.....	4074	3701	.....
Montgomery Street.....	3719	3617	.....	.....	.....
CALIFORNIA & POLK STS.....	.....	.....	.....	.....	18397
California Street.....	.....	.....	5732	5376	.....
Polk Street.....	3963	3326	.....	.....	.....
CALIFORNIA ST. & PRESIDIO AVE.....	.....	.....	.....	.....	14082
California Street.....	.....	.....	4991	3991	.....
Presidio Avenue.....	3699	1401	.....	.....	.....
CALIFORNIA & SANSOME STS.....	.....	.....	.....	.....	12405
California Street.....	.....	.....	4214	3641	.....
Sansome Street.....	2434	2116	.....	.....	.....
CALIFORNIA & SCOTT STS.....	.....	.....	.....	.....	10301
California Street.....	.....	.....	4292	3927	.....
Scott Street.....	1008	1074	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CALIFORNIA & STOCKTON STS.....	.....	.....	.....	.....	9468
California Street.....	.....	.....	4822	4032	.....
Stockton Street.....	516	98	.....	.....	.....
CALIFORNIA ST. & 25TH AVE.....	.....	.....	.....	.....	3599
California Street.....	.....	.....	1058	1363	.....
25th Avenue.....	650	528	.....	.....	.....
CALIFORNIA ST. & VAN NESS AVE.....	.....	.....	.....	.....	26922
California Street.....	.....	.....	5058	4446	.....
Van Ness Avenue.....	8521	8897	.....	.....	.....
CALIFORNIA & WEBSTER STS.....	.....	.....	.....	.....	11890
California Street.....	.....	.....	4417	4437	.....
Webster Street.....	1333	1703	.....	.....	.....
CARL & COLE STS.....	.....	.....	.....	.....	1684
Carl Street .....	.....	.....	459	331	.....
Cole Street .....	477	417	.....	.....	.....
(6-hour A. M. count)	.....	.....	.....	.....	.....
CARL & STANYAN STS.....	.....	.....	.....	.....	4309
Carl Street .....	.....	.....	969	877	.....
Stanyan Street .....	1086	1377	.....	.....	.....
CASTRO & CHENERY STS.....	.....	.....	.....	.....	1513
Castro Street .....	.....	143	.....	.....	.....
Chenery Street .....	.....	.....	691	679	.....
CASTRO & EIGHTEENTH STS.....	.....	.....	.....	.....	6042
Castro Street .....	1233	1619	.....	.....	.....
Eighteenth Street .....	.....	.....	1438	1752	.....
CASTRO, MARKET & SEVENTEENTH STS.....	.....	.....	.....	.....	19076
Castro Street .....	1332	.....	.....	.....	.....
Castro Street .....	.....	1013	.....	.....	.....
Market Street.....N.E.....	.....	.....	.....	5817	.....
Market Street.....S.W.....	.....	.....	.....	6641	.....
Seventeenth Street.....	.....	.....	2539	.....	.....
Seventeenth Street.....	.....	.....	.....	1734	.....
CASTRO & TWENTY-FOURTH STS.....	.....	.....	.....	.....	3517
Castro Street .....	529	451	.....	.....	.....
Twenty-fourth Street .....	.....	.....	992	1545	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CASTRO & TWENTY-THIRD STS.....	.....	.....	.....	.....	2328
Castro Street .....	342	395	.....	.....	.....
Twenty-third Street .....	.....	.....	1076	515	.....
CAYUGA & SENECA AVES.....	.....	.....	.....	.....	1191
Cayuga Avenue .....	222	240	.....	.....	.....
Seneca Avenue .....	.....	.....	386	343	.....
CENTRAL AVE. & FELL ST.....	.....	.....	.....	.....	7418
Central Avenue .....	.....	304	.....	.....	.....
Fell Street .....	.....	.....	3348	3766	.....
CENTRAL AVE. & OAK ST.....	.....	.....	.....	.....	5957
Central Avenue .....	201	30	.....	.....	.....
Oak Street .....	.....	.....	2241	3485	.....
CERRITOS & OCEAN AVES. & WESTGATE DRIVE.....	.....	.....	.....	.....	5905
Cerritos Avenue .....N.E. ....	.....	.....	.....	.....	141
Ocean Avenue .....S.E. ....	.....	.....	.....	.....	2773
Ocean Avenue .....N.W. ....	.....	.....	.....	.....	2800
Westgate Drive .....S.W. ....	.....	.....	.....	.....	191
CERVANTES & MARINA BLVDS., SCOTT ST. & YACHT HAR- BOR DRIVE .....	.....	.....	.....	.....	5702
Cervantes Boulevard .....N.W. ....	.....	.....	.....	.....	378
Marina Boulevard .....	.....	.....	2187	.....	.....
Marina Boulevard .....	.....	.....	.....	2269	.....
Scott Street .....	360	.....	.....	.....	.....
Yacht Harbor Drive.....	.....	508	.....	.....	.....
CHENERY & DIAMOND STS.....	.....	.....	.....	.....	2224
Chenery Street .....	.....	.....	334	735	.....
Diamond Street .....	898	257	.....	.....	.....
CHENERY ST. & LIPPARD AVE.....	.....	.....	.....	.....	667
Chenery Street .....	280	302	.....	.....	.....
Lippard Avenue .....	.....	.....	51	34	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH SOUTH	EAST	WEST	TOTAL
<b>CHESTNUT ST., EMBARCADERO &amp; SANSOME ST.</b>				14582
Chestnut Street		258		
Embarcadero N.W.			6793	
Embarcadero S.E.			6666	
Sansome Street	865			
<b>CHESTNUT &amp; FILLMORE STS.</b>				7512
Chestnut Street		1981	1594	
Fillmore Street	1466	2471		
<b>CHESTNUT &amp; SCOTT STS.</b>				5015
Chestnut Street		1078	1339	
Scott Street	1373	1225		
<b>CHESTNUT ST. &amp; VAN NESS AVE.</b>				10961
Chestnut Street		1081	370	
Van Ness Avenue	5263	4247		
<b>CHURCH ST. &amp; DUBOCE AVE.</b>				7843
Church Street	1438	219		
Duboce Avenue		3440	2746	
<b>CHURCH &amp; EIGHTEENTH STS.</b>				7235
Church Street	761	896		
Eighteenth Street		3095	2483	
<b>CHURCH, FOURTEENTH &amp; MARKET STS.</b>				19340
Church Street	2137			
Church Street	1279			
Fourteenth Street		901		
Fourteenth Street			1103	
Market Street N.E.			7160	
Market Street S.W.			6760	
<b>CHURCH &amp; SIXTEENTH STS.</b>				5832
Church Street	1209	1501		
Sixteenth Street		1383	1739	
<b>CHURCH &amp; TWENTY-FOURTH STS.</b>				6987
Church Street	1638	955		
Twenty-fourth Street		1996	2398	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CHURCH & TWENTY-NINTH STS. ....					3142
Church Street .....	828	1258			
Twenty-ninth Street .....			486	570	
CLAREMONT BLVD. & ULLOA ST. ....					6422
Claremont Boulevard .....	2094	2354			
Ulloa Street .....			1534	440	
CLAREMONT & DEWEY BLVDS., KENSINGTON WAY AND TARAVAL ST. ....					5400
Claremont Blvd.....	2730				
Dewey Blvd.....		1291			
Kensington Way.....				213	
Taraval Street.....			1166		
CLARENDON AVE. & LAGUNA HONDA BLVD. ....					8847
Clarendon Avenue.....				469	
Laguna Honda Blvd.....	4678	3700			
CLARENDON AVE & TWIN PEAKS BLVD. ....					1637
Clarendon Avenue.....			595	649	
Twin Peaks Blvd.....	393				
*CLAY & DAVIS STS. ....					4162
Clay Street.....			2318	3	
Davis Street .....	1126	715			
*CLAY ST. & GRANT AVE. ....					4279
Clay Street.....			1640	35	
Grant Avenue.....	1488	116			
*CLAY & LARKIN STS. ....					6786
Clay Street.....			615	150	
Larkin Street.....	3381	2640			
*CLAY & MONTGOMERY STS. ....					9395
Clay Street.....			2062		
Montgomery Street.....	4023	3310			
*CLAY & POWELL STS. ....					3813
Davis Street.....			839	11	
Clay Street .....	1374	1589			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CLAY ST. & PRESIDIO AVE.....	.....	.....	.....	.....	6220
Clay Street.....	.....	.....	1418	1577	.....
Presidio Avenue.....	1720	1505	.....	.....	.....
CLAY & SCOTT STS.....	.....	.....	.....	.....	4791
Clay Street.....	.....	.....	1438	1404	.....
Scott Street.....	821	1128	.....	.....	.....
CLAY & SPRUCE STS.....	.....	.....	.....	.....	2571
Clay Street.....	.....	.....	1084	1202	.....
Spruce Street.....	170	115	.....	.....	.....
CLAY & STEINER STS.....	.....	.....	.....	.....	6804
Clay Street .....	.....	.....	1582	983	.....
Steiner Street .....	2137	2102	.....	.....	.....
*CLAY & TAYLOR STS.....	.....	.....	.....	.....	2671
Clay Street .....	.....	.....	748	131	.....
Taylor Street .....	1016	776	.....	.....	.....
CLAYTON ST. & CORBETT AVE.....	.....	.....	.....	.....	2877
Clayton Street .....N.W.	.....	.....	.....	1093	.....
Clayton Street .....S.E.	.....	.....	.....	1318	.....
Corbett Avenue .....	271	.....	.....	.....	.....
Corbett Avenue .....	.....	195	.....	.....	.....
CLAYTON & MARKET STS.....	.....	.....	.....	.....	11160
Clayton Street .....	.....	.....	1078	.....	.....
Market Street .....	5514	4568	.....	.....	.....
CLAYTON ST. & PARNASSUS AVE.....	.....	.....	.....	.....	3681
Clayton Street .....	1649	994	.....	.....	.....
Parnassus Avenue .....	.....	.....	1038	.....	.....
CLAYTON & SEVENTEENTH STS.....	.....	.....	.....	.....	6927
Clayton Street .....	1931	1994	.....	.....	.....
Seventeenth Street .....	.....	.....	1021	1981	.....
CLEMENT ST. & EIGHTEENTH AVE.....	.....	.....	.....	.....	3759
Clement Street .....	.....	.....	1659	1319	.....
Eighteenth Avenue .....	429	352	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
CLEMENT ST. & FUNSTON AVE.....	.....	.....	.....	.....	3316
Clement Street .....	.....	.....	1627	1198	.....
Funston Avenue .....	284	207	.....	.....	.....
CLEMENT ST. & THIRTY-FIRST AVE.....	.....	.....	.....	.....	2095
Clement Street .....	.....	.....	893	894	.....
Thirty-first Avenue .....	133	175	.....	.....	.....
CLEMENT ST. & TWENTY-FOURTH AVE.....	.....	.....	.....	.....	3462
Clement Street .....	.....	.....	1442	1256	.....
Twenty-fourth Avenue .....	423	341	.....	.....	.....
COLE & FELL STS.....	.....	.....	.....	.....	8995
Cole Street .....	.....	163	.....	.....	.....
Fell Street .....	.....	.....	4211	4621	.....
COLLINGWOOD, MARKET & SEVENTEENTH STS.....	.....	.....	.....	.....	10681
Collingwood Street .....	416	.....	.....	.....	.....
Market Street.....N.E. ....	.....	.....	.....	5543	.....
Market Street.....S.W. ....	.....	.....	.....	4584	.....
Seventeenth Street .....	.....	.....	133	.....	.....
COLUMBUS AVE., GREEN & STOCKTON STS.....	.....	.....	.....	.....	12238
Columbus Avenue .....	.....	.....	.....	3706	.....
Columbus Avenue .....	.....	.....	.....	4336	.....
Green Street .....	.....	.....	518	.....	.....
Green Street .....	.....	.....	.....	527	.....
Stockton Street .....	1784	.....	.....	.....	.....
Stockton Street .....	.....	1367	.....	.....	.....
COLUMBUS AVE., KEARNY & PACIFIC STS.....	.....	.....	.....	.....	12105
Columbus Avenue .....	.....	.....	.....	2942	.....
Columbus Avenue .....	.....	.....	.....	3295	.....
Kearny Street .....	1626	.....	.....	.....	.....
Kearny Street .....	.....	541	.....	.....	.....
Pacific Street .....	.....	.....	2443	.....	.....
Pacific Street .....	.....	.....	.....	1858	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>COLUMBUS AVE., MONTGOMERY &amp; WASHINGTON STS.</b>					9057
Columbus Avenue ..... S.E.				2627	
Montgomery Street ..... 2545					
Montgomery Street ..... 619					
Washington Street ..... 812					
Washington Street ..... 2456					
<b>COLUMBUS AVE., POWELL &amp; UNION STS.</b>					13684
Columbus Avenue ..... N.W.				4153	
Columbus Avenue ..... S.E.				4345	
Powell Street ..... 1535					
Powell Street ..... 1061					
Union Street ..... 1599					
Union Street ..... 991					
<b>COLUMBUS AVE. &amp; VALLEJO ST.</b>					8211
Columbus Avenue ..... N.W.				3173	
Columbus Avenue ..... S.E.				3681	
Vallejo Street ..... 983					
Vallejo Street ..... 374					
<b>CONNECTICUT &amp; MARIPOSA STS.</b>					1614
Connecticut Street ..... 499	376				
Mariposa Street ..... 255		484			
<b>CONNECTICUT &amp; SEVENTEENTH STS.</b>					4249
Connecticut Street ..... 445	62				
Seventeenth Street ..... 2078		1664			
<b>CORBETT AVE., MARKET ST. &amp; PORTOLA DRIVE.</b>					10594
Corbett Avenue ..... 227					
Market Street ..... S.W.				4854	
Portola Drive ..... 5513					
<b>CORTLAND AVE. &amp; MISSION ST.</b>					13052
Cortland Avenue ..... 1070					
Mission Street ..... 5810	6172				



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
DAVIS ST., EMBARCADERO & GREEN ST.....					12279
Davis Street .....	228				
Davis Street .....		256			
Embarcadero .....N.W. ....				5883	
Embarcadero .....S.E. ....				5774	
Green Street .....			138		
*DAVIS & JACKSON STS.....					3256
Davis Street .....	765	669			
Jackson Street .....			1822		
DEWEY & LAGUNA HONDA BLVDS. ....					11313
Dewey Boulevard .....N.E. ....				4552	
Laguna Honda Boulevard.....		4030			
Laguna Honda Boulevard.....N.W. ....				2731	
DIAMOND & TWENTY-SECOND STS.....					203
Diamond Street .....	87	72			
Twenty-Second Street .....			44		
DIAMOND & TWENTY-THIRD STS. ....					2581
Diamond Street .....	610	87			
Twenty-third Street .....			1271	613	
DIVISADERO & FELL STS.....					12201
Divisadero Street .....	1191	2014			
Fell Street .....			4447	4549	
DIVISADERO & FULTON STS.....					10892
Divisadero Street .....	1767	2539			
Fulton Street .....			3621	2965	
DIVISADERO & GEARY STS.....					9266
Divisadero Street .....	1810	1463			
Geary Street .....			3413	2580	
DIVISADERO & HAIGHT STS.....					4700
Divisadero Street .....	416	849			
Haight Street .....			1871	1564	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
DIVISADERO ST. & PACIFIC AVE.....					3355
Divisadero Street .....	398	581			
Pacific Avenue .....			1094	1282	
DIVISADERO & PINE STS.....					5032
Divisadero Street .....	1077	1097			
Pine Street .....			1448	1410	
DIVISADERO & POST STS.....					10285
Divisadero Street .....	1494	1380			
Post Street .....			3243	4168	
DIVISADERO & SUTTER STS.....					4224
Divisadero Street .....	1369	1311			
Sutter Street .....			693	851	
DIVISADERO & TURK STS.....					9575
Divisadero Street .....	1737	2736			
Turk Street .....			3163	1939	
DOLORES & FIFTEENTH STS.....					9072
Dolores Street .....	2788	2364			
Fifteenth Street .....			1656	2264	
DOLORES & MARKET STS.....					16672
Dolores Street .....	2489				
Market Street.....N.E.					6492
Market Street.....S.W.					7691
DOLORES & SEVENTEENTH STS.....					11332
Dolores Street .....	2828	2354			
Seventeenth Street .....			3245	2905	
DOLORES & TWENTIETH STS.....					6155
Dolores Street .....	2531	2622			
Twentieth Street .....			538	464	
DOLORES & TWENTY-SECOND STS.....					5888
Dolores Street .....	2283	1921			
Twenty-second Street .....			578	1106	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>DOUGLASS</b>					
& TWENTY-SECOND STS.....					986
Douglass Street .....	491	155			
Twenty-second Street .....			168	172	
<b>DRUMM ST., EMBARCADERO</b>					
& PACIFIC ST. ....					18918
Drumm Street .....	1106				
Drumm Street .....		592			
Embarcadero ..... N.W. ....				8011	
Embarcadero ..... S.E. ....				7014	
Pacific Street .....			1100		
Pacific Street .....				1095	
<b>*DRUMM &amp; SACRAMENTO STS.....</b>					5054
Drumm Street .....	2073	2264			
Sacramento Street .....			4	713	
<b>DUBOCE AVE., MISSION, OTIS</b>					
& THIRTEENTH STS.....					14065
Duboce Avenue .....			2427		
Mission Street .....	4614				
Mission Street .....		4046			
Otis Street .....		1431			
Thirteenth Street .....				1547	
<b>DUBOCE AVE. &amp; NOE ST.....</b>					6916
Duboce Avenue .....			3236	2289	
Noe Street .....	1391				
<b>DUBOCE AVE., SANCHEZ</b>					
& STEINER STS.....					10866
Duboce Avenue .....			2501	2878	
Sanchez Street .....	2847				
Steiner Street .....		2640			
<b>DUBOCE AVE. &amp; VALENCIA ST.....</b>					13675
Duboce Avenue .....			1972	1975	
Valencia Street .....	5198	4530			
<b>EDDY &amp; FILLMORE STS.....</b>					6376
Eddy Street .....			1005	1644	
Fillmore Street .....	2001	1726			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
EDDY & FRANKLIN STS.....	.....	.....	.....	.....	9505
Eddy Street .....	.....	.....	1327	1930	.....
Franklin Street .....	3265	2983	.....	.....	.....
EDDY & HYDE STS.....	.....	.....	.....	.....	13062
Eddy Street .....	.....	.....	2375	2847	.....
Hyde Street .....	4566	3274	.....	.....	.....
EDDY & JONES STS.....	.....	.....	.....	.....	12239
Eddy Street .....	.....	.....	2825	3155	.....
Jones Street .....	3204	3055	.....	.....	.....
EDDY, MARKET & POWELL STS.....	.....	.....	.....	.....	12814
Eddy Street .....	.....	.....	987	.....	.....
Market Street.....N.E.	.....	.....	.....	5453	.....
Market Street.....S.W.	.....	.....	.....	5506	.....
Powell Street .....	.....	868	.....	.....	.....
EDDY & MASON STS.....	.....	.....	.....	.....	8211
Eddy Street .....	.....	.....	1915	1722	.....
Mason Street .....	2341	2233	.....	.....	.....
EDDY & POLK STS.....	.....	.....	.....	.....	13758
Eddy Street .....	.....	.....	1921	2576	.....
Polk Street .....	4723	4538	.....	.....	.....
EDDY & TAYLOR STS.....	.....	.....	.....	.....	11474
Eddy Street .....	.....	.....	2436	2303	.....
Taylor Street .....	3811	2924	.....	.....	.....
EDNA ST. & MONTEREY BLVD.....	.....	.....	.....	.....	4979
Edna Street .....	290	46	.....	.....	.....
Monterey Boulevard .....	.....	.....	2212	2431	.....
EIGHTEENTH AVE. & GEARY BLVD.....	.....	.....	.....	.....	9813
Eighteenth Avenue .....	467	475	.....	.....	.....
Geary Boulevard .....	.....	.....	4382	4489	.....
EIGHTEENTH & FOLSOM STS.....	.....	.....	.....	.....	8411
Eighteenth Street .....	.....	.....	1610	1805	.....
Folsom Street .....	2063	2933	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
EIGHTEENTH & GUERRERO STS.....	.....	.....	.....	.....	11479
Eighteenth Street .....	.....	.....	2962	2483	.....
Guerrero Street .....	2909	3125	.....	.....	.....
EIGHTEENTH & MARKET STS.....	.....	.....	.....	.....	10300
Eighteenth Street .....	.....	.....	.....	567	.....
Market Street.....N.E.	.....	.....	.....	5167	.....
Market Street.....S.W.	.....	.....	.....	4566	.....
EIGHTEENTH & MISSION STS.....	.....	.....	.....	.....	13462
Eighteenth Street .....	.....	.....	2586	2342	.....
Mission Street .....	3679	4855	.....	.....	.....
EIGHTEENTH & THIRD STS.....	.....	.....	.....	.....	13302
Eighteenth Street .....	.....	.....	308	111	.....
Third Street .....	6400	6483	.....	.....	.....
EIGHTH AVE. & FULTON ST.....	.....	.....	.....	.....	6901
Eighth Avenue .....	.....	642	.....	.....	.....
Fulton Street .....	.....	.....	2445	2559	.....
Golden Gate Park Drive.....	1255	.....	.....	.....	.....
EIGHTH AVE. & LAKE ST.....	.....	.....	.....	.....	5683
Eighth Avenue .....	223	.....	.....	.....	.....
Lake Street .....	.....	.....	2872	2588	.....
EIGHTH & FOLSOM STS.....	.....	.....	.....	.....	12794
Eighth Street .....	3943	4162	.....	.....	.....
Folsom Street .....	.....	.....	2442	2247	.....
EIGHTH, GROVE, HYDE & MARKET STS.....	.....	.....	.....	.....	22691
Eighth Street .....	5567	.....	.....	.....	.....
Grove Street .....	.....	.....	2412	.....	.....
Hyde Street .....	.....	3356	.....	.....	.....
Market Street.....N.E.	.....	.....	.....	5718	.....
Market Street.....S.W.	.....	.....	.....	5538	.....
EIGHTH & HARRISON STS.....	.....	.....	.....	.....	23013
Eighth Street .....	2418	3459	.....	.....	.....
Harrison Street .....	.....	.....	5430	11706	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>EIGHTH &amp; HOWARD STS.</b> .....					21179
Eighth Street .....	3906	4323			
Howard Street .....			5965	6985	
<b>EIGHTH &amp; MISSION STS.</b> .....					23304
Eighth Street .....	4731	5136			
Mission Street .....			6433	7004	
<b>EL CAMINO DEL MAR, FORTY-EIGHTH &amp; POINT LOBOS AVES.</b> .....					5530
El Camino del Mar.....		1789			
Forty-eighth Avenue .....	233				
Point Lobos Avenue.....			2267	1241	
<b>EL CAMINO DEL MAR &amp; TWENTY-FIFTH AVE.</b> .....					2188
El Camino del Mar.....			605	753	
Twenty-fifth Avenue .....	518	312			
<b>ELEVENTH &amp; FOLSOM STS.</b> .....					11984
Eleventh Street .....	2431	2161			
Folsom Street .....			2947	4445	
<b>ELEVENTH &amp; HARRISON STS.</b> .....					14694
Eleventh Street .....	2443	1886			
Harrison Street .....			5179	5186	
<b>ELEVENTH &amp; HOWARD STS.</b> .....					15474
Eleventh Street .....	2426	2314			
Howard Street .....			4956	5778	
<b>ELEVENTH, MARKET &amp; OAK STS., VAN NESS AVE. &amp; VAN NESS AVE. SOUTH</b> .....					26787
Eleventh Street.....N.W. ....				2286	
Market Street.....N.E. ....				5752	
Market Street.....S.W. ....				4625	
Oak Street .....			1600		
Van Ness Avenue.....		7859			
Van Ness Avenue South.....	4665				
<b>ELEVENTH &amp; MISSION STS.</b> .....					18307
Eleventh Street .....	2939	1758			
Mission Street .....			6657	6953	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
ELLIS, FOURTH, MARKET & STOCKTON STS.....	.....	.....	.....	.....	25307
Ellis Street .....	.....	.....	3087	.....	.....
Fourth Street .....	5154	.....	.....	.....	.....
Market Street.....N.E. ....	.....	.....	.....	8751	.....
Market Street.....S.W. ....	.....	.....	.....	5426	.....
Stockton Street .....	2889	.....	.....	.....	.....
ELLIS & GOUGH STS.....	.....	.....	.....	.....	4727
Ellis Street .....	.....	.....	1224	1537	.....
Gough Street .....	981	985	.....	.....	.....
ELLIS & LARKIN STS.....	.....	.....	.....	.....	12684
Ellis Street .....	.....	.....	2475	3257	.....
Larkin Street .....	3234	3718	.....	.....	.....
ELLIS & LEAVENWORTH STS.....	.....	.....	.....	.....	12616
Ellis Street .....	.....	.....	3191	3714	.....
Leavenworth Street .....	3078	2633	.....	.....	.....
ELLIS & MASON STS.....	.....	.....	.....	.....	10589
Ellis Street .....	.....	.....	2871	2908	.....
Mason Street .....	2309	2501	.....	.....	.....
ELLIS & POWELL STS.....	.....	.....	.....	.....	9475
Ellis Street .....	.....	.....	3399	3339	.....
Powell Street .....	758	1979	.....	.....	.....
ELLIS & STEINER STS.....	.....	.....	.....	.....	7781
Ellis Street .....	.....	.....	932	1359	.....
Steiner Street .....	2757	2733	.....	.....	.....
ELLIS & TAYLOR STS.....	.....	.....	.....	.....	13051
Ellis Street .....	.....	.....	2988	3225	.....
Taylor Street .....	3883	2955	.....	.....	.....
ELLIS ST. & VAN NESS AVE.....	.....	.....	.....	.....	22855
Ellis Street .....	.....	.....	1651	2491	.....
Van Ness Avenue .....	9480	9233	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
EL VERANO WAY, MONTEREY BLVD., NORTHGATE DRIVE & SAN FELIPE AVE.....	.....	.....	.....	.....	3404
El Verano Way.....S.W.	.....	.....	.....	178	.....
Monterey Boulevard .....	.....	.....	1411	1515	.....
Northgate Drive .....	226	.....	.....	.....	.....
San Felipe Avenue.....S.E.	.....	.....	.....	74	.....
EMBARCADERO, FIRST & TOWNSEND STS.....	.....	.....	.....	.....	14599
Embarcadero .....	5911	7190	.....	.....	.....
First Street .....	.....	.....	.....	191	.....
Townsend Street .....	.....	.....	.....	1307	.....
EMBARCADERO & FOLSOM ST.....	.....	.....	.....	.....	16925
Embarcadero .....	.....	.....	.....	8569	.....
Embarcadero .....	.....	.....	.....	7746	.....
Folsom Street .....	.....	.....	.....	610	.....
EMBARCADERO, HARRISON & STEUART STS. ....	.....	.....	.....	.....	15957
Embarcadero .....	6615	7510	.....	.....	.....
Harrison Street .....	.....	.....	.....	1166	.....
Steuart Street .....	.....	.....	.....	666	.....
EMBARCADERO & JEFFERSON ST. ....	.....	.....	.....	.....	3899
Embarcadero .....	.....	.....	.....	2320	.....
Embarcadero .....	.....	.....	.....	625	.....
Jefferson Street .....	.....	.....	954	.....	.....
EMBARCADERO & MAIN ST.....	.....	.....	.....	.....	13749
Embarcadero .....	6093	6542	.....	.....	.....
Main Street .....	.....	.....	.....	1114	.....
*EMBARCADERO, MARKET, SACRAMENTO & STEUART STS. ....	.....	.....	.....	.....	23340
Embarcadero .....	.....	.....	.....	8941	.....
Embarcadero .....	.....	.....	.....	12641	.....
Market Street.....	.....	.....	.....	1454	.....
Sacramento Street .....	.....	.....	18	.....	.....
Steuart Street .....	.....	.....	.....	286	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>EUREKA &amp; TWENTY-THIRD STS.</b> .....	.....	.....	.....	.....	2139
Eureka Street .....	.....	567	.....	.....	.....
Twenty-third Street .....	.....	.....	930	642	.....
<b>EVANS AVE. &amp; THIRD ST.</b> .....	.....	.....	.....	.....	12003
Evans Avenue .....	.....	.....	772	1358	.....
Third Street .....	4813	5060	.....	.....	.....
<b>FARALLONES &amp; SAN JOSE AVES.</b> .....	.....	.....	.....	.....	3326
Farallones Avenue .....	.....	.....	226	.....	.....
San Jose Avenue .....	N.E.	.....	.....	.....	1255
San Jose Avenue .....	S.W.	.....	.....	.....	1845
<b>FELL &amp; FRANKLIN STS.</b> .....	.....	.....	.....	.....	17430
Fell Street .....	.....	.....	3727	3870	.....
Franklin Street .....	5355	4478	.....	.....	.....
<b>FELL &amp; GOUGH STS.</b> .....	.....	.....	.....	.....	9092
Gough Street .....	5345	3747	.....	.....	.....
(Gough Street only)	.....	.....	.....	.....	.....
<b>FELL &amp; LAGUNA STS.</b> .....	.....	.....	.....	.....	10829
Fell Street .....	.....	.....	3794	3533	.....
Laguna Street .....	1510	1992	.....	.....	.....
<b>FELL &amp; LYON STS.</b> .....	.....	.....	.....	.....	7126
Fell Street .....	.....	.....	3348	3572	.....
Lyon Street .....	.....	206	.....	.....	.....
<b>FELL ST., MAIN DRIVE GOLDEN GATE PARK, PARK PANHANDLE &amp; STANYAN ST.</b> (6-hour count, 7 A.M.-1 P.M.) .....	.....	.....	.....	.....	12454
Fell Street .....	.....	.....	.....	1432	.....
Main Drive Golden Gate Park.....	.....	.....	4674	.....	.....
Park Panhandle .....	.....	.....	.....	639	.....
Stanyan Street .....	3501	.....	.....	.....	.....
Stanyan Street .....	.....	2208	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
FELL, MARKET, POLK & 10TH STS. ....	.....	.....	.....	.....	26037
Fell Street .....	.....	.....	3778	.....	.....
Market Street.....N.E. ....	.....	.....	.....	5998	.....
Market Street.....S.W. ....	.....	.....	.....	5139	.....
Polk Street .....	.....	4579	.....	.....	.....
10th Street .....	.....	N.W.	.....	7143	.....
FELL ST. & MASONIC AVE.....	.....	.....	.....	.....	15330
Fell Street .....	.....	.....	4552	3766	.....
Masonic Avenue .....	2590	4422	.....	.....	.....
FELL & SCOTT STS.....	.....	.....	.....	.....	12747
Fell Street .....	.....	.....	4545	3338	.....
Scott Street .....	3175	1689	.....	.....	.....
FELL & STANYAN STS.....	.....	.....	.....	.....	14712
Fell Street .....	.....	.....	.....	4621	.....
Stanyan Street .....	6843	3248	.....	.....	.....
FELL & STEINER STS.....	.....	.....	.....	.....	9301
Fell Street .....	.....	.....	3695	3224	.....
Steiner Street .....	1081	1301	.....	.....	.....
FELL ST. & VAN NESS AVE.....	.....	.....	.....	.....	22942
Fell Street .....	.....	.....	4235	4083	.....
Van Ness Avenue.....	6624	8000	.....	.....	.....
FELL & WEBSTER STS.....	.....	.....	.....	.....	9206
Fell Street .....	.....	.....	3556	3407	.....
Webster Street .....	981	1262	.....	.....	.....
FELTON ST., SAN BRUNO & THORNTON AVES.....	.....	.....	.....	.....	2355
Felton Street .....	.....	.....	269	.....	.....
San Bruno Avenue.....	722	925	.....	.....	.....
Thornton Avenue .....	.....	.....	.....	439	.....
15TH AVE. & IRVING STS.....	.....	.....	.....	.....	2833
15th Avenue .....	165	208	.....	.....	.....
Irving Street .....	.....	.....	1268	1192	.....
15TH AVE. & JUDAH ST.....	.....	.....	.....	.....	3801
15th Avenue .....	105	158	.....	.....	.....
Judah Street .....	.....	.....	1964	1574	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
15TH & FOLSOM STS.....	.....	.....	.....	.....	7427
15th Street .....	.....	.....	1117	2077	.....
Folsom Street .....	2062	2171	.....	.....	.....
15TH & GUERRERO STS.....	.....	.....	.....	.....	9126
15th Street .....	.....	.....	1892	2386	.....
Guerrero Street .....	2176	2672	.....	.....	.....
15TH, MARKET & SANCHEZ STS.....	.....	.....	.....	.....	19212
15th Street .....	.....	.....	537	.....	.....
15th Street .....	.....	.....	.....	1206	.....
Market Street .....	N.E.	.....	.....	.....	7146
Market Street .....	S.W.	.....	.....	.....	5902
Sanchez Street .....	1896	.....	.....	.....	.....
Sanchez Street .....	.....	2525	.....	.....	.....
15TH & MISSION STS.....	.....	.....	.....	.....	13655
15th Street .....	.....	.....	2609	2421	.....
Mission Street .....	3968	4657	.....	.....	.....
5TH & FOLSOM STS.....	.....	.....	.....	.....	15183
5th Street .....	3477	3214	.....	.....	.....
Folsom Street .....	.....	.....	4372	4120	.....
5TH & HARRISON STS.....	.....	.....	.....	.....	21537
5th Street .....	2295	4072	.....	.....	.....
Harrison Street .....	.....	.....	7370	7800	.....
5TH & HOWARD STS.....	.....	.....	.....	.....	20454
5th Street .....	4054	3303	.....	.....	.....
Howard Street .....	.....	.....	6256	6841	.....
5TH & MARKET STS.....	.....	.....	.....	.....	14591
5th Street .....	N.W.	.....	.....	.....	2904
Market Street .....	N.E.	.....	.....	.....	6578
Market Street .....	S.W.	.....	.....	.....	5109
5TH & MISSION STS.....	.....	.....	.....	.....	21564
5th Street .....	4264	2699	.....	.....	.....
Mission Street .....	.....	.....	6762	7839	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
5TH & TOWNSEND STS.....					8130
5th Street .....		1382			
Townsend Street.....			3479	3269	
FILBERT & FILLMORE STS.....					2852
Filbert Street .....			564	648	
Fillmore Street .....	646	994			
FILBERT & FRANKLIN STS.....					5012
Filbert Street .....			979	675	
Franklin Street .....	1865	1493			
FILBERT & LAGUNA STS.....					2655
Filbert Street .....			811	634	
Laguna Street .....	552	658			
FILBERT ST. & VAN NESS AVE.....					14176
Filbert Street .....			818	386	
Van Ness Avenue.....	6245	6727			
FILLMORE & GREENWICH STS.....					2999
Fillmore Street .....	780	1153			
Greenwich Street .....			527	539	
FILLMORE & HAIGHT STS.....					4828
Fillmore Street .....	926	883			
Haight Street.....			1868	1151	
FILLMORE & HAYES STS.....					2618
Fillmore Street.....	804	800			
Hayes Street.....			480	534	
FILLMORE & LOMBARD STS.....					8872
Fillmore Street.....	843	1815			
Lombard Street.....			3383	2831	
FILLMORE & McALLISTER STS.....					5244
Fillmore Street.....	1116	1513			
McAllister Street.....			910	1705	
FILLMORE & OAK STS.....					4656
Fillmore Street.....	1133	795			
Oak Street.....			1629	1099	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
FILLMORE & O'FARRELL STS.....	.....	.....	.....	.....	6656
Fillmore Street.....	1885	1906	.....	.....	.....
O'Farrell Street.....	.....	.....	1172	1693	.....
FILLMORE & PINE STS.....	.....	.....	.....	.....	6751
Fillmore Street.....	1319	1641	.....	.....	.....
Pine Street.....	.....	.....	1827	1964	.....
FILLMORE & POST STS.....	.....	.....	.....	.....	11175
Fillmore Street.....	1821	1550	.....	.....	.....
Post Street.....	.....	.....	4205	3599	.....
FILLMORE & UNION STS.....	.....	.....	.....	.....	3738
Fillmore Street.....	418	887	.....	.....	.....
Union Street.....	.....	.....	1074	1359	.....
FIRST & FOLSOM STS.....	.....	.....	.....	.....	9162
First Street.....	928	3396	.....	.....	.....
Folsom Street.....	.....	.....	2947	1891	.....
FIRST & HOWARD STS.....	.....	.....	.....	.....	19608
First Street.....	5870	4248	.....	.....	.....
Howard Street.....	.....	.....	5208	4282	.....
FIRST & MISSION STS.....	.....	.....	.....	.....	21616
First Street.....	5265	6647	.....	.....	.....
Mission Street.....	.....	.....	5015	4689	.....
FOERSTER ST. & MONTEREY BLVD.....	.....	.....	.....	.....	5589
Foerster Street.....	326	622	.....	.....	.....
Monterey Blvd.....	.....	.....	2138	2503	.....
FOLSOM & FOURTH STS.....	.....	.....	.....	.....	8897
Folsom Street.....	.....	.....	828	1926	.....
Fourth Street.....	2998	3145	.....	.....	.....
FOLSOM & FREMONT STS.....	.....	.....	.....	.....	8886
Folsom Street.....	.....	.....	2720	2199	.....
Fremont Street.....	785	3182	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
FOLSOM & MAIN STS.....	.....	.....	.....	.....	5296
Folsom Street.....	.....	.....	1279	916	.....
Main Street.....	1297	1804	.....	.....	.....
FOLSOM & 9TH STS.....	.....	.....	.....	.....	11702
Folsom Street.....	.....	.....	4803	2836	.....
9th Street.....	1846	2217	.....	.....	.....
FOLSOM & 2ND STS.....	.....	.....	.....	.....	11958
Folsom Street.....	.....	.....	3032	3633	.....
2nd Street.....	3073	2220	.....	.....	.....
FOLSOM & 6TH STS.....	.....	.....	.....	.....	16800
Folsom Street.....	.....	.....	4539	4534	.....
6th Street.....	3504	4223	.....	.....	.....
FOLSOM & SPEAR STS.....	.....	.....	.....	.....	3719
Folsom Street.....	.....	.....	1423	1169	.....
Spear Street.....	381	746	.....	.....	.....
FOLSOM & STEUART STS.....	.....	.....	.....	.....	3013
Folsom Street.....	.....	.....	920	717	.....
Steuart Street.....	599	777	.....	.....	.....
FOLSOM & 10TH STS.....	.....	.....	.....	.....	20475
Folsom Street.....	.....	.....	3033	2640	.....
10th Street.....	7366	7436	.....	.....	.....
FOLSOM & 3RD STS.....	.....	.....	.....	.....	14717
Folsom Street.....	.....	.....	3569	3210	.....
3rd Street.....	3614	4324	.....	.....	.....
FOLSOM & 13TH STS.....	.....	.....	.....	.....	6706
Folsom Street.....	1167	687	.....	.....	.....
13th Street.....	.....	.....	2718	2135	.....
FOLSOM & 12TH STS.....	.....	.....	.....	.....	8577
Folsom Street.....	.....	.....	2732	2583	.....
12th Street.....	1273	1989	.....	.....	.....
FOLSOM & 26TH STS.....	.....	.....	.....	.....	3760
Folsom Street.....	1057	1463	.....	.....	.....
26th Street.....	.....	.....	688	552	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
48TH AVE., GREAT HIGHWAY, SKYLINE & SLOAT BLVDS.....	.....	.....	.....	.....	6340
48th Avenue .....	.....	411	.....	.....	.....
Great Highway .....	.....	2422	.....	.....	.....
Skyline Boulevard .....	1307	.....	.....	.....	.....
Sloat Boulevard .....	.....	.....	2200	.....	.....
41ST AVE. & LINCOLN WAY.....	.....	.....	.....	.....	2345
41st Avenue .....	138	486	.....	.....	.....
Lincoln Way .....	.....	.....	884	837	.....
42ND AVE., GEARY BLVD. & POINT LOBOS AVE.....	.....	.....	.....	.....	3767
42nd Avenue .....	119	.....	.....	.....	.....
42nd Avenue .....	.....	96	.....	.....	.....
Geary Boulevard.....	.....	.....	611	.....	.....
Geary Boulevard.....	.....	.....	.....	1894	.....
Point Lobos Avenue.....	.....	.....	1047	.....	.....
43RD AVE. & FULTON ST.....	.....	.....	.....	.....	2426
43rd Avenue.....	461	211	.....	.....	.....
Fulton Street.....	.....	.....	860	894	.....
14TH AVE. & TARAVAL ST.....	.....	.....	.....	.....	4206
14th Avenue.....	212	255	.....	.....	.....
Taraval Street.....	.....	.....	1864	1875	.....
14TH & WEST PORTAL AVES.....	.....	.....	.....	.....	3946
14th Avenue.....	531	363	.....	.....	.....
West Portal Avenue.....	.....	.....	1319	1733	.....
14TH & GUERRERO STS.....	.....	.....	.....	.....	7758
14th Street.....	.....	.....	1093	1862	.....
Guerrero Street.....	2542	2261	.....	.....	.....
14TH & VALENCIA STS.....	.....	.....	.....	.....	13647
14th Street.....	.....	.....	1473	2286	.....
Valencia Street.....	4966	4922	.....	.....	.....
14TH ST. & VAN NESS AVE. SO.....	.....	.....	.....	.....	16064
14th Street.....	.....	.....	1566	1753	.....
Van Ness Avenue South.....	6002	6743	.....	.....	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
4TH & PARNASSUS AVES.....	.....	.....	.....	.....	3951
4th Avenue.....	130	140	.....	.....	.....
Parnassus Avenue.....	.....	.....	1956	1725	.....
4TH & HARRISON STS.....	.....	.....	.....	.....	19885
4th Street.....	2813	4019	.....	.....	.....
Harrison Street.....	.....	.....	6503	6550	.....
4TH & HOWARD STS.....	.....	.....	.....	.....	20014
4th Street.....	3766	4622	.....	.....	.....
Howard Street.....	.....	.....	6359	5267	.....
4TH & MISSION STS.....	.....	.....	.....	.....	24837
4th Street.....	4386	6142	.....	.....	.....
Mission Street.....	.....	.....	7028	7281	.....
4TH & 3RD STS.....	.....	.....	.....	.....	15261
4th Street.....	.....	.....	1613	653	.....
3rd Street.....	6894	6101	.....	.....	.....
FOWLER AVE., & TERESITA BLVD.....	.....	.....	.....	.....	1365
Fowler Avenue.....S.E.....	.....	.....	.....	.....	160
Teresita Boulevard.....N.W.....	.....	.....	.....	.....	638
Teresita Boulevard.....	.....	567	.....	.....	.....
FRANKLIN ST., & GOLDEN GATE AVE.....	.....	.....	.....	.....	14358
Franklin Street.....	4795	3310	.....	.....	.....
Golden Gate Avenue.....	.....	.....	3110	3143	.....
FRANKLIN & GREEN STS.....	.....	.....	.....	.....	5842
Franklin Street.....	2085	1831	.....	.....	.....
Green Street.....	.....	.....	1030	896	.....
FRANKLIN & GROVE STS.....	.....	.....	.....	.....	15974
Franklin Street.....	6006	5013	.....	.....	.....
Grove Street.....	.....	.....	1572	3383	.....
FRANKLIN, PAGE, MARKET & 12TH STS.....	.....	.....	.....	.....	20816
Franklin Street.....	.....	2783	.....	.....	.....
Page Street.....	.....	.....	1247	.....	.....
Market Street.....N.E.....	.....	.....	.....	8640	.....
Market Street.....S.W.....	.....	.....	.....	6436	.....
12th Street.....N.W.....	.....	.....	.....	1710	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
FRANKLIN & McALLISTER STS.....					14528
Franklin Street .....	6233	3483			
McAllister Street .....			1734	3078	
FRANKLIN & O'FARRELL STS.....					9924
Franklin Street .....	3380	3295			
O'Farrell Street .....			1360	1889	
FRANKLIN ST., & PACIFIC AVE.....					9270
Franklin Street .....	2303	1707			
Pacific Avenue .....			2631	2629	
FRANKLIN & POST STS.....					13410
Franklin Street .....	3701	3333			
Post Street .....			3869	2507	
FRANKLIN & TURK STS.....					13409
Franklin Street .....	4220	3253			
Turk Street .....			3680	2256	
FRANKLIN & VALLEJO STS.....					5870
Franklin Street .....	2219	1899			
Vallejo Street .....			858	894	
FRANKLIN & WASHINGTON STS....					6748
Franklin Street .....	2822	2568			
Washington Street .....			729	629	
FREDERICK & STANYAN STS.....					7633
Frederick Street .....			2255	627	
Stanyan Street .....	1236	3515			
FREMONT & HARRISON STS.....					8597
Fremont Street .....	9	3103			
Harrison Street .....			3105	2380	
FREMONT & HOWARD STS.....					13856
Fremont Street .....	1591	2504			
Howard Street .....			5324	4437	
FREMONT & MISSION STS.....					13294
Fremont Street .....	1858	2635			
Mission Street .....			4611	4190	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>FREMONT, FRONT &amp; MARKET STS.</b>					13399
Fremont Street ..... N.W.				1942	
Front Street .....	2400				
Market Street ..... N.E.				4787	
Market Street ..... S.W.				4270	
<b>FRONT &amp; PINE STS.</b>					7704
Front Street .....	1737	2207			
Pine Street .....			2202	1558	
<b>*FRONT &amp; SACRAMENTO STS.</b>					4197
Front Street .....	1284	1396			
Sacramento Street .....			1517		
<b>*FRONT &amp; WASHINGTON STS.</b>					3495
Front Street .....	759	926			
Washington Street .....			8	1802	
<b>FULTON &amp; GOUGH STS.</b>					2855
Gough Street (South only) .....				2855	
<b>FULTON ST., &amp; GREAT HIGHWAY</b>					6474
Fulton Street .....				527	
Great Highway .....	2910	3037			
<b>FULTON, LEAVENWORTH &amp; MARKET STS.</b>					16503
Fulton Street .....			1457		
Leavenworth Street .....		1949			
Market Street ..... N.E.				5612	
Market Street ..... S.W.				7485	
<b>FULTON ST., &amp; PARKER AVE.</b>					5023
Fulton Street .....			2523	1941	
Parker Avenue .....	122	437			
<b>FULTON ST., &amp; PARK PRESIDIO BLVD.</b>					6708
Fulton Street .....			2601	1927	
Park Presidio Boulevard .....	1073	1107			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
FULTON & SCOTT STS.....	.....	.....	.....	.....	9988
Fulton Street .....	.....	.....	3300	3042	.....
Scott Street .....	2221	1425	.....	.....	.....
FULTON ST. & 6TH AVE.....	.....	.....	.....	.....	7164
Fulton Street .....	.....	.....	3118	.....	.....
Fulton Street .....	.....	.....	.....	3013	.....
Golden Gate Park 6th Avenue Approach.....	645	.....	.....	.....	.....
6th Avenue .....	.....	388	.....	.....	.....
FULTON & STEINER STS.....	.....	.....	.....	.....	9190
Fulton Street .....	.....	.....	3669	2593	.....
Steiner Street .....	1255	1673	.....	.....	.....
FULTON ST. & 10TH AVE.....	.....	.....	.....	.....	5305
Fulton Street .....	.....	.....	2378	.....	.....
Fulton Street .....	.....	.....	.....	1954	.....
Golden Gate Park 10th Avenue Approach.....	524	.....	.....	.....	.....
10th Avenue .....	.....	449	.....	.....	.....
FULTON ST. & 36TH AVE.....	.....	.....	.....	.....	2826
Fulton Street .....	.....	.....	1293	.....	.....
Fulton Street .....	.....	.....	.....	1085	.....
Golden Gate Park 36th Avenue Approach.....	291	.....	.....	.....	.....
36th Avenue .....	.....	157	.....	.....	.....
FULTON ST. & 25TH AVE.....	.....	.....	.....	.....	7010
Fulton Street .....	.....	.....	1988	.....	.....
Fulton Street .....	.....	.....	.....	1765	.....
Golden Gate Park Cross-Over Drive .....	2156	.....	.....	.....	.....
25th Avenue .....	.....	1101	.....	.....	.....
FULTON ST. & 24TH AVE.....	.....	.....	.....	.....	3924
Fulton Street .....	.....	.....	1842	1707	.....
24th Avenue .....	.....	375	.....	.....	.....
FULTON & WEBSTER STS.....	.....	.....	.....	.....	9965
Fulton Street .....	.....	.....	3750	3093	.....
Webster Street .....	1205	1917	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
FUNSTON AVE. & GEARY BLVD.....	.....	.....	.....	.....	9528
Funston Avenue .....	281	246	.....	.....	.....
Geary Boulevard .....	.....	.....	4388	4613	.....
FUNSTON AVE. & LAKE ST.....	.....	.....	.....	.....	5091
Funston Avenue .....	186	.....	.....	.....	.....
Lake Street .....	.....	.....	2473	2432	.....
FUNSTON AVE. & LINCOLN WAY..	.....	.....	.....	.....	6765
Funston Avenue .....	176	.....	.....	.....	.....
Lincoln Way .....	.....	.....	3227	3362	.....
GEARY BLVD. & 9TH AVE.....	.....	.....	.....	.....	10502
Geary Boulevard .....	.....	.....	4493	4889	.....
9th Avenue .....	477	643	.....	.....	.....
GEARY BLVD. & PARKER AVE.....	.....	.....	.....	.....	12223
Geary Boulevard .....	.....	.....	6367	5146	.....
Parker Avenue .....	204	506	.....	.....	.....
GEARY BLVD. & PRESIDIO AVE.....	.....	.....	.....	.....	18466
Geary Boulevard .....	.....	.....	9313	.....	.....
Geary Street.....	.....	.....	.....	2989	.....
Presidio Avenue .....	.....	6164	.....	.....	.....
GEARY BLVD. & 33RD AVE.....	.....	.....	.....	.....	6375
Geary Boulevard .....	.....	.....	2559	2892	.....
33rd Avenue .....	570	354	.....	.....	.....
GEARY BLVD. & 25TH AVE.....	.....	.....	.....	.....	8819
Geary Boulevard .....	.....	.....	3671	3165	.....
25th Avenue .....	1302	681	.....	.....	.....
GEARY BLVD. & 24TH AVE.....	.....	.....	.....	.....	8151
Geary Boulevard .....	.....	.....	3866	3448	.....
24th Avenue .....	434	403	.....	.....	.....
GEARY & GOUGH STS.....	.....	.....	.....	.....	5924
Geary Street .....	.....	.....	2147	1705	.....
Gough Street .....	1075	997	.....	.....	.....
GEARY ST. & GRANT AVE.....	.....	.....	.....	.....	9774
Geary Street .....	.....	.....	2671	2100	.....
Grant Avenue .....	1948	3055	.....	.....	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
GEARY, KEARNY, MARKET & THIRD STS. ....	.....	.....	.....	.....	21156
Geary Street .....	.....	.....	2133	.....	.....
Kearny Street .....	.....	4024	.....	.....	.....
Market Street .....N.E. ....	.....	.....	.....	.....	5345
Market Street .....S.W. ....	.....	.....	.....	.....	5043
Third Street .....N.W. ....	.....	.....	.....	.....	4611
GEARY & LARKIN STS.....	.....	.....	.....	.....	12980
Geary Street .....	.....	.....	3058	2423	.....
Larkin Street .....	3482	4017	.....	.....	.....
GEARY & LEAVENWORTH STS.....	.....	.....	.....	.....	11150
Geary Street .....	.....	.....	3147	2856	.....
Leavenworth Street .....	2678	2469	.....	.....	.....
GEARY & MASON STS.....	.....	.....	.....	.....	11253
Geary Street .....	.....	.....	2961	2843	.....
Mason Street .....	2822	2627	.....	.....	.....
GEARY & POWELL STS.....	.....	.....	.....	.....	11014
Geary Street .....	.....	.....	3668	2531	.....
Powell Street .....	2025	2790	.....	.....	.....
GEARY & STEINER STS.....	.....	.....	.....	.....	11076
Geary Street .....	.....	.....	3172	2299	.....
Steiner Street .....	3007	2598	.....	.....	.....
GEARY & STOCKTON STS.....	.....	.....	.....	.....	12349
Geary Street .....	.....	.....	3069	2774	.....
Stockton Street .....	3127	3379	.....	.....	.....
GEARY & TAYLOR STS.....	.....	.....	.....	.....	12506
Geary Street .....	.....	.....	3327	2856	.....
Taylor Street .....	3298	3025	.....	.....	.....
GEARY ST. & VAN NESS AVE.....	.....	.....	.....	.....	22095
Geary Street.....	.....	.....	2053	1837	.....
Van Ness Avenue.....	9571	8634	.....	.....	.....
GEARY & WEBSTER STS.....	.....	.....	.....	.....	8256
Geary Street.....	.....	.....	2759	1820	.....
Webster Street.....	1791	1886	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
GENEVA AVE. & MISSION ST.....	.....	.....	.....	.....	10539
Geneva Avenue.....	.....	.....	1356	2169	.....
Mission Street.....	3635	3379	.....	.....	.....
GENEVA AVE. & NAPLES ST.....	.....	.....	.....	.....	4823
Geneva Avenue.....	.....	.....	1982	1656	.....
Naples Street.....	946	239	.....	.....	.....
GILMAN AVE., PAUL AVE., & THIRD ST.....	.....	.....	.....	.....	7362
Gilman Avenue.....	.....	.....	.....	479	.....
Paul Avenue.....	.....	.....	271	.....	.....
Third Street.....	3292	3320	.....	.....	.....
GOLDEN GATE AVE. & GOUGH ST. ....	.....	.....	.....	.....	8266
Golden Gate Avenue.....	.....	.....	3529	3007	.....
Gough Street.....	525	1225	.....	.....	.....
GOLDEN GATE AVE. & HYDE ST. ....	.....	.....	.....	.....	13692
Golden Gate Avenue.....	.....	.....	3000	2460	.....
Hyde Street.....	4645	3587	.....	.....	.....
GOLDEN GATE AVE & JONES ST. ....	.....	.....	.....	.....	8280
Golden Gate Avenue.....	.....	.....	2646	1341	.....
Jones Street.....	1224	3069	.....	.....	.....
GOLDEN GATE AVE. & LAGUNA ST.....	.....	.....	.....	.....	9708
Golden Gate Avenue.....	.....	.....	2732	3232	.....
Laguna Street.....	1789	1955	.....	.....	.....
GOLDEN GATE AVE., MARKET, SIXTH & TAYLOR STS.....	.....	.....	.....	.....	23502
Golden Gate Avenue.....	.....	.....	2544	.....	.....
Market Street.....N.E.	.....	.....	.....	.....	6276
Market Street.....S.W.	.....	.....	.....	.....	5657
Sixth Street.....N.W.	.....	.....	.....	.....	5095
Taylor Street.....	.....	3930	.....	.....	.....
GOLDEN GATE & MASONIC AVE.....	.....	.....	.....	.....	9363
Golden Gate Avenue.....	.....	.....	.....	893	.....
Masonic Avenue.....	4194	4276	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH SOUTH	EAST	WEST	TOTAL
<b>GOLDEN GATE AVE. &amp; POLK ST.</b> .....	.....	.....	.....	15905
Golden Gate Avenue .....	.....	3390	3111	.....
Polk Street .....	4449	4955	.....	.....
<b>GOLDEN GATE AVE. &amp; SCOTT ST.</b> .....	.....	.....	.....	5904
Golden Gate Ave.....	.....	1156	1592	.....
Scott Street.....	1650	1506	.....	.....
<b>GOLDEN GATE &amp; VAN NESS AVES.</b> .....	.....	.....	.....	24406
Golden Gate Avenue.....	.....	3079	2978	.....
Van Ness Avenue.....	8766	9583	.....	.....
<b>GOLDEN GATE PARK, MAIN &amp; KEZAR DRIVES</b> .....	.....	.....	.....	23643
Main Drive .....	.....	.....	9374	.....
Main Drive .....	.....	8539	.....	.....
Kezar Drive .....	5730	.....	.....	.....
<b>GOLDEN GATE PARK, MAIN DRIVE, 8TH AVE. APPROACH</b> .....	.....	.....	.....	13566
Main Drive .....	.....	3360	.....	.....
Main Drive .....	.....	.....	5347	.....
From 8th Avenue Approach.....	784	.....	.....	.....
From Bus Drive.....N.W.	.....	.....	1212	.....
From Music Concourse Drive...S.E.	.....	.....	2863	.....
<b>GOUGH &amp; GROVE STS.</b> .....	.....	.....	.....	5347
Gough Street (North only).....	.....	.....	5347	.....
<b>GOUGH, HAIGHT, MARKET &amp; VALENCIA STS.</b> .....	.....	.....	.....	27959
Gough Street .....	3616	.....	.....	.....
Haight Street.....	.....	952	.....	.....
Market Street.....N.E.	.....	.....	8741	.....
Market Street.....S.W.	.....	.....	10472	.....
Valencia Street .....	4178	.....	.....	.....
<b>GOUGH &amp; HAYES STS.</b> .....	.....	.....	.....	9328
Gough Street .....	5567	3761	.....	.....
(Gough Street only)	.....	.....	.....	.....
<b>GOUGH &amp; JACKSON STS.</b> .....	.....	.....	.....	3637
Gough Street .....	638	537	.....	.....
Jackson Street .....	.....	1010	1452	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
GENEVA AVE. & MISSION ST.....	.....	.....	.....	.....	10539
Geneva Avenue.....	.....	.....	1356	2169	.....
Mission Street.....	3635	3379	.....	.....	.....
GENEVA AVE. & NAPLES ST.....	.....	.....	.....	.....	4823
Geneva Avenue.....	.....	.....	1982	1656	.....
Naples Street.....	946	239	.....	.....	.....
GILMAN AVE., PAUL AVE., & THIRD ST.....	.....	.....	.....	.....	7362
Gilman Avenue.....	.....	.....	.....	479	.....
Paul Avenue.....	.....	.....	271	.....	.....
Third Street.....	3292	3320	.....	.....	.....
GOLDEN GATE AVE. & GOUGH ST.....	.....	.....	.....	.....	8266
Golden Gate Avenue.....	.....	.....	3529	3007	.....
Gough Street.....	525	1225	.....	.....	.....
GOLDEN GATE AVE. & HYDE ST.....	.....	.....	.....	.....	13692
Golden Gate Avenue.....	.....	.....	3000	2460	.....
Hyde Street.....	4645	3587	.....	.....	.....
GOLDEN GATE AVE & JONES ST.....	.....	.....	.....	.....	8280
Golden Gate Avenue.....	.....	.....	2646	1341	.....
Jones Street.....	1224	3069	.....	.....	.....
GOLDEN GATE AVE. & LAGUNA ST.....	.....	.....	.....	.....	9708
Golden Gate Avenue.....	.....	.....	2732	3232	.....
Laguna Street.....	1789	1955	.....	.....	.....
GOLDEN GATE AVE., MARKET, SIXTH & TAYLOR STS.....	.....	.....	.....	.....	23502
Golden Gate Avenue.....	.....	.....	2544	.....	.....
Market Street.....N.E.	.....	.....	.....	6276	.....
Market Street.....S.W.	.....	.....	.....	5657	.....
Sixth Street.....N.W.	.....	.....	.....	5095	.....
Taylor Street.....	.....	3930	.....	.....	.....
GOLDEN GATE & MASONIC AVE.....	.....	.....	.....	.....	9363
Golden Gate Avenue.....	.....	.....	.....	893	.....
Masonic Avenue.....	4194	4276	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>GOLDEN GATE AVE. &amp; POLK ST.</b> .....					15905
Golden Gate Avenue .....			3390	3111	
Polk Street .....	4449	4953			
<b>GOLDEN GATE AVE. &amp; SCOTT ST.</b> .....					5904
Golden Gate Ave.....			1156	1592	
Scott Street.....	1650	1506			
<b>GOLDEN GATE &amp; VAN NESS AVES.</b> .....					24406
Golden Gate Avenue.....			3079	2978	
Van Ness Avenue.....	8766	9583			
<b>GOLDEN GATE PARK, MAIN &amp; KEZAR DRIVES</b> .....					23643
Main Drive .....				9374	
Main Drive .....			8539		
Kezar Drive .....	5730				
<b>GOLDEN GATE PARK, MAIN DRIVE, 8TH AVE. APPROACH</b> .....					13566
Main Drive .....			3360		
Main Drive .....				5347	
From 8th Avenue Approach.....		784			
From Bus Drive.....N.W.				1212	
From Music Concourse Drive...S.E.				2863	
<b>GOUGH &amp; GROVE STS.</b> .....					5347
Gough Street (North only).....				5347	
<b>GOUGH, HAIGHT, MARKET &amp; VALENCIA STS.</b> .....					27959
Gough Street .....		3616			
Haight Street.....			952		
Market Street.....N.E.				8741	
Market Street.....S.W.				10472	
Valencia Street .....	4178				
<b>GOUGH &amp; HAYES STS.</b> .....					9328
Gough Street .....	5567	3761			
(Gough Street only)					
<b>GOUGH &amp; JACKSON STS.</b> .....					3637
Gough Street .....	638	537			
Jackson Street .....			1010	1452	



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
GOUGH & McALLISTER STS.....	.....	.....	.....	.....	4256
Gough Street (North only) .....	.....	.....	.....	.....	4256
GOUGH & PAGE STS.....	.....	.....	.....	.....	8015
Gough Street (North only) .....	.....	.....	.....	.....	8015
GOUGH & PINE STS.....	.....	.....	.....	.....	6556
Gough Street .....	956	987	.....	.....	.....
Pine Street .....	.....	.....	2177	2436	.....
GOUGH & SACRAMENTO STS.....	.....	.....	.....	.....	3918
Gough Street .....	1138	1036	.....	.....	.....
Sacramento Street.....	.....	.....	837	907	.....
GRAFTON & PLYMOUTH AVES.....	.....	.....	.....	.....	1104
Grafton Avenue .....	.....	.....	194	160	.....
Plymouth Avenue .....	375	375	.....	.....	.....
GRAND VIEW AVE. & MARKET ST.....	.....	.....	.....	.....	9419
Grand View Avenue.....S.W.	.....	.....	.....	.....	594
Market Street .....	4561	.....	.....	.....	.....
Market Street .....	.....	4264	.....	.....	.....
GRANT AVE. & JACKSON ST.....	.....	.....	.....	.....	4304
Grant Avenue .....	1338	1008	.....	.....	.....
Jackson Street .....	.....	.....	1035	923	.....
GRANT AVE., MARKET & O'FARRELL STS.....	.....	.....	.....	.....	15060
Grant Avenue .....	.....	2087	.....	.....	.....
Market Street .....N.E.	.....	.....	.....	.....	5299
Market Street.....S.W.	.....	.....	.....	.....	5776
O'Farrell Street.....	.....	.....	1898	.....	.....
GRANT AVE. & POST ST.....	.....	.....	.....	.....	13615
Grant Avenue .....	3910	2557	.....	.....	.....
Post Street .....	.....	.....	3755	3393	.....
GRANT AVE. & SUTTER ST.....	.....	.....	.....	.....	11777
Grant Avenue .....	3609	2429	.....	.....	.....
Sutter Street .....	.....	.....	2999	2740	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>GREAT HIGHWAY, LOWER</b>					
GREAT HIGHWAY, LA					
PLAYA, LINCOLN WAY &					
SOUTH DRIVE GOLDEN					
GATE PARK .....					6946
Great Highway .....	1975				
Great Highway .....		3310			
Lower Great Highway .....	462				
La Playa .....	346				
Lincoln Way .....				551	
South Drive Golden Gate Park..S.W. ....				302	
<b>GREEN &amp; LAGUNA STS.</b>					
Green Street .....			759	891	2676
Laguna Street .....	511	515			
<b>GREEN &amp; STEINER STS.</b>					
Green Street .....			376	545	3111
Steiner Street .....	1215	975			
<b>GROVE &amp; POLK STS.</b>					
Grove Street .....			3785	4034	17308
Polk Street .....	4186	5303			
<b>GROVE ST. &amp; VAN NESS AVE.</b>					
Grove Street .....			2945	4213	23670
Van Ness Avenue .....	8450	8062			
<b>GUERRERO, HERMANN, LAGUNA</b>					
& MARKET STS.					
Guerrero Street .....	1903				19281
Hermann Street .....			507		
Laguna Street .....		1134			
Market Street .....	N.E.			7552	
Market Street .....	S.W.			8185	
<b>GUERRERO &amp; 16TH STS.</b>					
Guerrero Street .....	3052	2882			10080
16th Street .....			1898	2248	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
GUERRERO ST., SAN JOSE AVE., & 28TH ST.....					8331
Guerrero Street.....		1951			
San Jose Avenue.....N.E.				3993	
San Jose Avenue.....S.W.				2147	
28th Street .....			240		
GUERRERO & 21ST STS.....					5174
Guerrero Street.....	2246	2649			
21st Street .....			133	146	
GUERRERO & 24TH STS.....					7130
Guerrero Street.....	1911	2378			
24th Street .....			1457	1384	
GUERRERO & 22ND STS.....					7404
Guerrero Street.....	2455	2520			
22nd Street .....			1093	1336	
GUERRERO & 23RD STS.....					6488
Guerrero Street.....	2108	2576			
23rd Street .....			889	915	
HAIGHT ST. & MASONIC AVE.....					7520
Haight Street.....			1856	2055	
Masonic Avenue.....	1621	1988			
HAIGHT & SCOTT STS.....					12614
Haight Street.....			2080	1963	
Scott Street.....	4176	4395			
HAIGHT & STANYAN STS.....					9177
Haight Street.....				1173	
Stanyan Street.....	3784	4220			
HARRISON & 9TH STS.....					17566
Harrison Street.....			5916	8174	
9th Street.....	1657	1819			
HARRISON & 2ND. STS.....					14906
Harrison Street.....			3962	4364	
2nd Street.....	3700	2880			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
HARRISON & 7TH STS.....	.....	.....	.....	.....	22799
Harrison Street.....	.....	.....	5961	12153	.....
7th Street.....	2286	2399	.....	.....	.....
HARRISON & 6TH STS.....	.....	.....	.....	.....	21959
Harrison Street.....	.....	.....	6121	10181	.....
6th Street.....	2348	3309	.....	.....	.....
HARRISON & SPEAR STS.....	.....	.....	.....	.....	3972
Harrison Street.....	.....	.....	1477	1578	.....
Spear Street.....	290	627	.....	.....	.....
HARRISON & 10TH STS.....	.....	.....	.....	.....	26808
Harrison Street.....	.....	.....	4748	7909	.....
10th Street.....	7451	6700	.....	.....	.....
HARRISON & 3RD STS.....	.....	.....	.....	.....	20778
Harrison Street.....	.....	.....	5216	5874	.....
3rd Street.....	5375	4313	.....	.....	.....
HARRISON & 13TH STS.....	.....	.....	.....	.....	8555
Harrison Street.....	3457	4282	.....	.....	.....
13th Street.....	.....	.....	816	.....	.....
HARRISON & 24TH STS.....	.....	.....	.....	.....	5055
24th Street.....	1126	1195	.....	.....	.....
Harrison Street.....	.....	.....	1412	1322	.....
HOLLOWAY AVE & JUNIPERO					
SERRA BLVD.....	.....	.....	.....	.....	3873
Holloway Avenue.....	.....	.....	.....	311	.....
Junipero Serra Blvd.....	1854	1708	.....	.....	.....
HOLLOWAY & PLYMOUTH AVES...	.....	.....	.....	.....	1291
Holloway Avenue.....	.....	.....	368	238	.....
Plymouth Avenue.....	358	327	.....	.....	.....
HOWARD & 9TH STS.....	.....	.....	.....	.....	18189
Howard Street.....	.....	.....	6250	6879	.....
9th Street.....	2388	2672	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
HOWARD & 2ND STS.....	.....	.....	.....	.....	15294
Howard Street.....	.....	.....	5441	5328	.....
2nd Street.....	2524	2001	.....	.....	.....
HOWARD & 7TH STS.....	.....	.....	.....	.....	18311
Howard Street.....	.....	.....	6006	7353	.....
7th Street.....	2557	2395	.....	.....	.....
HOWARD & 6TH STS.....	.....	.....	.....	.....	22698
Howard Street.....	.....	.....	6361	8132	.....
6th Street.....	3805	4400	.....	.....	.....
HOWARD & SPEAR STS.....	.....	.....	.....	.....	7343
Howard Street.....	.....	.....	3412	2487	.....
Spear Street.....	661	783	.....	.....	.....
HOWARD & 10TH STS.....	.....	.....	.....	.....	26708
Howard Street.....	.....	.....	5502	6854	.....
10th Street.....	7638	6714	.....	.....	.....
HOWARD & 3RD STS.....	.....	.....	.....	.....	21454
Howard Street.....	.....	.....	6505	5885	.....
3rd Street.....	4144	4920	.....	.....	.....
HOWARD ST., 13TH & VAN NESS AVE. SOUTH.....	.....	.....	.....	.....	18270
Howard Street.....S.W.	.....	.....	.....	4893	.....
13th Street.....	.....	.....	1246	.....	.....
13th Street.....	.....	.....	.....	1082	.....
Van Ness Avenue South.....	6306	.....	.....	.....	.....
Van Ness Avenue South.....	.....	4743	.....	.....	.....
HYDE ST. & COLUMBUS AVE.....	.....	.....	.....	.....	208
Hyde Street.....	.....	66	.....	.....	.....
Columbus Avenue.....N.W.	.....	.....	.....	142	.....
HYDE & JEFFERSON STS.....	.....	.....	.....	.....	4779
Hyde Street.....	1252	2354	.....	.....	.....
Jefferson Street.....	.....	.....	1173	.....	.....
HYDE & NORTH POINT STS.....	.....	.....	.....	.....	6107
Hyde Street.....	602	1341	.....	.....	.....
North Point Street.....	.....	.....	2264	1900	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
HYDE & O'FARRELL STS.....	.....	.....	.....	.....	13433
Hyde Street .....	4497	3114	.....	.....	.....
O'Farrell Street .....	.....	.....	2849	2973	.....
HYDE ST. & PACIFIC AVE.....	.....	.....	.....	.....	9686
Hyde Street .....	1093	1143	.....	.....	.....
Pacific Avenue .....	.....	.....	3926	3524	.....
HYDE & POST STS.....	.....	.....	.....	.....	14959
Hyde Street .....	4147	1882	.....	.....	.....
Post Street .....	.....	.....	5385	3545	.....
HYDE & SACRAMENTO STS.....	.....	.....	.....	.....	3508
Hyde Street .....	1233	1103	.....	.....	.....
Sacramento Street .....	.....	.....	290	942	.....
HYDE & UNION STS.....	.....	.....	.....	.....	5538
Hyde Street.....	1189	935	.....	.....	.....
Union Street.....	.....	.....	1387	2027	.....
HYDE & VALLEJO STS.....	.....	.....	.....	.....	3087
Hyde Street.....	1000	1070	.....	.....	.....
Vallejo Street.....	.....	.....	429	588	.....
IRVING ST. & 19TH AVE.....	.....	.....	.....	.....	9768
Irving Street.....	.....	.....	1553	1264	.....
19th Avenue.....	3285	3666	.....	.....	.....
IRVING ST. & 7TH AVE.....	.....	.....	.....	.....	9065
Irving Street.....	.....	.....	1427	1417	.....
7th Avenue.....	3616	2605	.....	.....	.....
IRVING ST. & SUNSET BLVD.....	.....	.....	.....	.....	2247
Irving Street.....	.....	.....	523	527	.....
Sunset Blvd.....	809	388	.....	.....	.....
IRVING ST. & 20TH AVE.....	.....	.....	.....	.....	4436
Irving Street.....	.....	.....	1487	1650	.....
20th Avenue.....	678	621	.....	.....	.....
IRVING ST. & 25TH AVENUE.....	.....	.....	.....	.....	2455
Irving Street.....	.....	.....	917	927	.....
25th Avenue.....	350	261	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
JACKSON & LARKIN STS.....	.....	.....	.....	.....	7105
Jackson Street.....	.....	.....	828	1212	.....
Larkin Street.....	2789	2276	.....	.....	.....
JACKSON & LAUREL STS.....	.....	.....	.....	.....	2369
Jackson Street.....	.....	.....	977	1148	.....
Laurel Street.....	138	106	.....	.....	.....
JACKSON & LEAVENWORTH STS... ..	.....	.....	.....	.....	3818
Jackson Street.....	.....	.....	175	1070	.....
Leavenworth Street.....	146	1106	.....	.....	.....
JACKSON & STEINER STS.....	.....	.....	.....	.....	5834
Jackson Street .....	.....	.....	1244	1262	.....
Steiner Street .....	1876	1452	.....	.....	.....
JACKSON & TAYLOR STS.....	.....	.....	.....	.....	2406
Jackson Street .....	.....	.....	152	834	.....
Taylor Street .....	789	631	.....	.....	.....
JACKSON ST. & VAN NESS AVE.....	.....	.....	.....	.....	18427
Jackson Street .....	.....	.....	1143	1613	.....
Van Ness Avenue.....	7402	8269	.....	.....	.....
JONES, MARKET & McALLISTER STS.....	.....	.....	.....	.....	13532
Jones Street .....	.....	1269	.....	.....	.....
Market Street .....	N.E.	.....	.....	5320	.....
Market Street .....	S.W.	.....	.....	5451	.....
McAllister Street .....	.....	.....	1492	.....	.....
JONES & O'FARRELL STS.....	.....	.....	.....	.....	11658
Jones Street .....	2681	2640	.....	.....	.....
O'Farrell Street .....	.....	.....	3231	3106	.....
JONES ST. & PACIFIC AVE.....	.....	.....	.....	.....	9407
Jones Street .....	525	557	.....	.....	.....
Pacific Avenue .....	.....	.....	4390	3935	.....
JONES & POST STS.....	.....	.....	.....	.....	13485
Jones Street .....	2354	1930	.....	.....	.....
Post Street .....	.....	.....	4723	4478	.....
JONES & VALLEJO STS.....	.....	.....	.....	.....	1315
Jones Street .....	606	410	.....	.....	.....
Vallejo Street .....	.....	.....	169	130	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
JONES & WASHINGTON STS.....	.....	.....	.....	.....	2133
Jones Street .....	644	435	.....	.....	.....
Washington Street .....	.....	.....	906	148	.....
JUDAH ST. & 19TH AVE.....	.....	.....	.....	.....	10392
Judah Street .....	.....	.....	1733	1550	.....
19th Avenue .....	3651	3458	.....	.....	.....
JUDAH ST. & 9TH AVE.....	.....	.....	.....	.....	6022
Judah Street .....	.....	.....	2055	2000	.....
9th Avenue.....	506	1461	.....	.....	.....
JUDAH ST. & 7TH AVE.....	.....	.....	.....	.....	11255
Judah Street .....	.....	.....	2404	1849	.....
7th Avenue .....	4096	2906	.....	.....	.....
JUDAH ST. & SUNSET BLVD.....	.....	.....	.....	.....	2966
Judah Street .....	.....	.....	872	687	.....
Sunset Boulevard .....	840	567	.....	.....	.....
JUNIPERO SERRA BLVD., 19TH AVE. EXTENSION & WORCESTER AVE. ....	.....	.....	.....	.....	6921
Junipero Serra Boulevard.....	2999	.....	.....	.....	.....
Junipero Serra Boulevard.....	.....	1550	.....	.....	.....
19th Avenue Extension.....S.E.	.....	.....	.....	2043	.....
Worcester Avenue .....	.....	N.W.	.....	.....	329
JUNIPERO SERRA BLVD., & OCEAN AVE. ....	.....	.....	.....	.....	9159
Junipero Serra Boulevard.....	2384	3011	.....	.....	.....
Ocean Avenue .....	.....	.....	1240	2524	.....
JUNIPERO SERRA BLVD., PORTOLA DRIVE, ST. FRANCIS BLVD., SLOAT BLVD. & WEST PORTAL AVE. ....	.....	.....	.....	.....	10327
Junipero Serra Boulevard.....	3609	.....	.....	.....	.....
Portola Drive .....	.....	S.W.	.....	2491	.....
St. Francis Boulevard.....	.....	.....	606	.....	.....
Sloat Boulevard .....	.....	.....	2537	.....	.....
West Portal Avenue.....S.W.	.....	.....	.....	1084	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
KEARNY & PINE STS.....	.....	.....	.....	.....	13231
Kearny Street .....	4191	3636	.....	.....	.....
Pine Street .....	.....	.....	2693	2711	.....
KEARNY & POST STS.....	.....	.....	.....	.....	15492
Kearny Street.....	4478	5122	.....	.....	.....
Post Street .....	.....	.....	3015	2877	.....
*KEARNY & SACRAMENTO STS.....	.....	.....	.....	.....	7804
Kearny Street .....	2897	3048	.....	.....	.....
Sacramento Street .....	.....	.....	42	1817	.....
KEARNY & SUTTER STS.....	.....	.....	.....	.....	15351
Kearny Street .....	5015	4646	.....	.....	.....
Sutter Street .....	.....	.....	3439	2251	.....
KEARNY & WASHINGTON STS.....	.....	.....	.....	.....	6805
Kearny Street .....	2737	1872	.....	.....	.....
Washington Street .....	.....	.....	842	1354	.....
KENSINGTON WAY, PORTOLA DRIVE, MARNE AVE. & MIRALOMA DRIVE .....	.....	.....	.....	.....	9496
Kensington Way .....S.E. ....	.....	.....	.....	377	.....
Portola Drive .....	.....	.....	3633	.....	.....
Portola Drive .....	.....	.....	.....	4269	.....
Marne Drive .....	163	.....	.....	.....	.....
Miraloma Drive .....N.E. ....	.....	.....	.....	1054	.....
KIRKHAM ST. & 19TH AVE.....	.....	.....	.....	.....	8135
Kirkham Street .....	.....	.....	437	358	.....
19th Avenue .....	3581	3759	.....	.....	.....
LAGUNA & LOMBARD STS.....	.....	.....	.....	.....	8143
Laguna Street .....	565	833	.....	.....	.....
Lombard Street .....	.....	.....	3797	2948	.....
LAGUNA & POST STS.....	.....	.....	.....	.....	10028
Laguna Street .....	1440	986	.....	.....	.....
Post Street .....	.....	.....	4269	3333	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>LAGUNA HONDA BLVD., MERCED</b>					
AVE. & WOODSIDE AVE.....	.....	.....	.....	.....	5619
Laguna Honda Boulevard.....N.W.	.....	.....	.....	1031	.....
Laguna Honda Boulevard.....S.E.	.....	.....	.....	2444	.....
Merced Avenue .....N.E.	.....	.....	.....	303	.....
Woodside Avenue .....	.....	.....	1841	.....	.....
<b>LAGUNA HONDA BLVD. &amp;</b>					
<b>VASQUEZ AVE.....</b>	.....	.....	.....	.....	1882
Laguna Honda Boulevard.....N.W.	.....	.....	.....	901	.....
Laguna Honda Boulevard .....S.E.	.....	.....	.....	867	.....
Vasquez Avenue .....N.E.	.....	.....	.....	88	.....
Vasquez Avenue .....S.W.	.....	.....	.....	26	.....
<b>LAKEWOOD AVE., OCEAN AVE. &amp;</b>					
<b>VICTORIA ST. ....</b>	.....	.....	.....	.....	6127
Lakewood Avenue .....	.....	44	.....	.....	.....
Ocean Avenue .....	.....	.....	2729	2907	.....
Victoria Street .....	447	.....	.....	.....	.....
<b>LOWER GREAT HIGHWAY &amp;</b>					
<b>NORIEGA ST. ....</b>	.....	.....	.....	.....	986
Lower Great Highway.....	372	552	.....	.....	.....
Noriega Street .....	.....	.....	62	.....	.....
<b>LARKIN &amp; McALLISTER STS.....</b>					
Larkin Street .....	4039	3359	.....	.....	13941
McAllister Street .....	.....	.....	4413	2130	.....
<b>LARKIN &amp; NORTH POINT STS.....</b>					
Larkin Street .....	199	975	.....	.....	1174
(Larkin Street only) .....	.....	.....	.....	.....	.....
<b>LARKIN &amp; PINE STS.....</b>					
Larkin Street .....	3659	3415	.....	.....	13640
Pine Street .....	.....	.....	3283	3283	.....
<b>LARKIN &amp; SUTTER STS.....</b>					
Larkin Street .....	3836	3955	.....	.....	12721
Sutter Street .....	.....	.....	1981	2949	.....
<b>LARKIN &amp; TURK STS.....</b>					
Larkin Street .....	3293	3619	.....	.....	12622
Turk Street .....	.....	.....	3010	2700	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
LEAVENWORTH & McALLISTER STS. ....					9346
Leavenworth Street .....	2503	2684			
McAllister Street .....			2531	1628	
LEAVENWORTH & PINE STS. ....					11324
Leavenworth Street .....	2448	1836			
Pine Street .....			3509	3531	
LEAVENWORTH & SUTTER STS. ....					10751
Leavenworth Street .....	2728	2294			
Sutter Street .....			2675	3054	
LEAVENWORTH & TURK STS. ....					11687
Leavenworth Street .....	3122	2709			
Turk Street .....			3104	2752	
LINCOLN WAY & 19TH AVE. ....					13391
Lincoln Way .....			2872		
Lincoln Way .....				2998	
19th Avenue .....	3046				
Golden Gate Park Drive .....		4475			
LINCOLN WAY & 9TH AVE. ....					10350
Lincoln Way .....			3987		
Lincoln Way .....				4220	
9th Avenue .....	924				
Golden Gate Park Drive .....		1219			
LINCOLN WAY & 7TH AVE. ....					14244
Lincoln Way .....			4458		
Lincoln Way .....				6028	
7th Avenue .....	3187				
Golden Gate Park Drive .....		571			
LINCOLN WAY & SUNSET BLVD. ....					2911
Lincoln Way .....			883	969	
Sunset Boulevard .....	670	389			
LINCOLN WAY & 3RD AVE. ....					13866
Lincoln Way .....			7036	1709	
3rd Avenue .....	309				
Golden Gate Park Drive .....		4813			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
LINCOLN WAY & 25TH AVE.....	.....	.....	.....	.....	4046
Lincoln Way.....	.....	.....	1829	1569	.....
25th Avenue.....	223	.....	.....	.....	.....
Golden Gate Park Drive.....	.....	425	.....	.....	.....
LISBON ST. & SILVER AVE.....	.....	.....	.....	.....	2109
Lisbon Street.....	175	.....	.....	.....	.....
Silver Avenue.....	.....	.....	884	1050	.....
LOCUST & WASHINGTON STS.....	.....	.....	.....	.....	1721
Locust Street.....	139	122	.....	.....	.....
Washington Street.....	.....	.....	707	753	.....
LOMBARD & LYON STS.....	.....	.....	.....	.....	7165
Lombard Street.....	.....	.....	2384	3266	.....
Lyon Street.....	1193	322	.....	.....	.....
LOMBARD & SCOTT STS.....	.....	.....	.....	.....	8122
Lombard Street.....	.....	.....	2923	3229	.....
Scott Street.....	711	1259	.....	.....	.....
LOMBARD & STOCKTON STS.....	.....	.....	.....	.....	1869
Lombard Street.....	.....	.....	174	380	.....
Stockton Street.....	806	509	.....	.....	.....
LOMBARD ST. & VAN NESS AVE.....	.....	.....	.....	.....	14203
Lombard Street.....	.....	.....	3177	446	.....
Van Ness Avenue.....	5767	4813	.....	.....	.....
LYON ST. & MARINA BLVD.....	.....	.....	.....	.....	3817
Lyon Street.....	273	734	.....	.....	.....
Marina Blvd.....	.....	.....	610	2200	.....
LYON & OAK STS.....	.....	.....	.....	.....	5706
Lyon Street.....	124	.....	.....	.....	.....
Oak Street.....	.....	.....	2283	3299	.....
MADISON ST. & SILVER AVE.....	.....	.....	.....	.....	2095
Madison Street.....	11	.....	.....	.....	.....
Silver Avenue.....	.....	.....	1083	1001	.....
MAIN & MISSION STS.....	.....	.....	.....	.....	12385
Main Street.....	1794	2825	.....	.....	.....
Mission Street.....	.....	.....	3976	3790	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
MAPLE & SACRAMENTO STS.....	.....	.....	.....	.....	2065
Maple Street .....	319	210	.....	.....	.....
Sacramento Street .....	.....	.....	800	736	.....
MARIPOSA & THIRD STS.....	.....	.....	.....	.....	14202
Mariposa Street .....	.....	.....	1226	164	.....
Third Street .....	6480	6332	.....	.....	.....
MARKET, MASON & TURK STS.....	.....	.....	.....	.....	15954
Market Street .....N.E. ....	.....	.....	.....	4710	.....
Market Street .....S.W. ....	.....	.....	.....	7607	.....
Mason Street .....	.....	1639	.....	.....	.....
Turk Street .....	.....	.....	1998	.....	.....
MARKET, McCOPPIN, OCTAVIA & WALLER STS.....	.....	.....	.....	.....	17836
Market Street .....N.E. ....	.....	.....	.....	9082	.....
Market Street .....S.W. ....	.....	.....	.....	5870	.....
McCoppin Street .....	.....	.....	1764	.....	.....
Octavia Street .....	.....	927	.....	.....	.....
Waller Street .....	.....	.....	193	.....	.....
MARKET, MONTGOMERY, NEW MONTGOMERY & POST STS.....	.....	.....	.....	.....	21125
Market Street .....N.E. ....	.....	.....	.....	4889	.....
Market Street .....S.W. ....	.....	.....	.....	5405	.....
Montgomery Street.....	.....	5342	.....	.....	.....
New Montgomery Street.....N.W. ....	.....	.....	.....	4053	.....
Post Street .....	.....	.....	1436	.....	.....
MARKET, NOE & 16TH STS.....	.....	.....	.....	.....	17459
Market Street .....N.E. ....	.....	.....	.....	7245	.....
Market Street .....S.W. ....	.....	.....	.....	6490	.....
Noe Street .....	975	.....	.....	.....	.....
Noe Street .....	.....	1708	.....	.....	.....
16th Street .....	.....	.....	154	.....	.....
16th Street .....	.....	.....	.....	887	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
MARKET, SANSOME & SUTTER STS. ....					12795
Market Street .....N.E. ....				4415	
Market Street .....S.W. ....				4964	
Sansome Street ..... ..	1885				
Sutter Street..... ..			1531		
MARKET & 2ND STS.....					11584
Market Street .....N.E. ....				4512	
Market Street .....S.W. ....				5357	
2nd Street .....N.W. ....				1715	
MARKET & 7TH STS.....					17604
Market Street .....N.E. ....				7316	
Market Street .....S.W. ....				5165	
7th Street .....N.W. ....				5123	
MASON & O'FARRELL STS.....					11511
Mason Street ..... ..	3309	2609			
O'Farrell Street ..... ..			2916	2677	
MASON & PACIFIC STS.....					9496
Mason Street ..... ..	865	1085			
Pacific Street ..... ..			4454	3092	
MASON & POST STS.....					14051
Mason Street ..... ..	2778	2348			
Post Street ..... ..			4681	4244	
MASON & SACRAMENTO STS.....					1522
Mason Street ..... ..	595	210			
Sacramento Street ..... ..			612	105	
MASON & SUTTER STS.....					12203
Mason Street..... ..	2948	1455			
Sutter Street..... ..			3776	4024	
MASONIC AVE. & OAK ST.....					10344
Masonic Avenue..... ..	2884	1346			
Oak Street..... ..			2908	3206	
McALLISTER ST. & VAN NESS AVE. ....					24364
McAllister Street..... ..			3779	3000	
Van Ness Avenue..... ..	8842	8743			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
McCOPPIN & VALENCIA STS.....	.....	.....	.....	.....	13764
McCoppin Street.....	.....	.....	1849	3159	.....
Valencia Street.....	4889	3867	.....	.....	.....
MIRALOMA DRIVE & YERBA BUENA AVE.....	.....	.....	.....	.....	2643
Miraloma Drive.....	.....	838	.....	.....	.....
Yerba Buena Avenue.....	.....	.....	469	1336	.....
MIRAMAR & OCEAN AVES.....	.....	.....	.....	.....	7265
Miramar Avenue.....	325	607	.....	.....	.....
Ocean Avenue.....	.....	.....	3314	3019	.....
MISSION & 19TH STS.....	.....	.....	.....	.....	11795
Mission Street.....	4321	5209	.....	.....	.....
19th Street.....	.....	.....	1245	1020	.....
MISSION & 9TH STS.....	.....	.....	.....	.....	19929
Mission Street.....	.....	.....	6456	6782	.....
9th Street.....	3600	3091	.....	.....	.....
MISSION ST. & OCEAN AVE.....	.....	.....	.....	.....	9289
Mission Street.....	4433	3882	.....	.....	.....
Ocean Avenue.....	.....	.....	974	.....	.....
MISSION ST. & ONONDAGA AVE.....	.....	.....	.....	.....	8279
Mission Street.....	3744	3703	.....	.....	.....
Onondaga Avenue.....	.....	.....	832	.....	.....
MISSION ST., OTIS ST., 12TH ST. & VAN NESS AVE. SOUTH.....	.....	.....	.....	.....	29710
Mission Street.....N.E.	.....	.....	.....	4749	.....
Mission Street.....S.W.	.....	.....	.....	7524	.....
Otis Street.....N.E.	.....	.....	.....	2264	.....
12th Street.....N.E.	.....	.....	.....	1622	.....
12th Street.....S.E.	.....	.....	.....	2887	.....
Van Ness Avenue South.....	4721	.....	.....	.....	.....
Van Ness Avenue South.....	.....	5943	.....	.....	.....
MISSION ST., PERSIA AVE. & RUTH ST.....	.....	.....	.....	.....	8345
Mission Street.....	4190	3516	.....	.....	.....
Persia Avenue.....	.....	.....	580	.....	.....
Ruth Street.....	.....	.....	59	.....	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
MISSION ST. & RICHLAND AVE.....	.....	.....	.....	.....	10572
Mission Street .....	5271	4905	.....	.....	.....
Richland Avenue .....	.....	.....	231	165	.....
MISSION & 17TH STS.....	.....	.....	.....	.....	14257
Mission Street .....	3995	4700	.....	.....	.....
17th Street .....	.....	.....	2841	2721	.....
MISSION & 7TH STS.....	.....	.....	.....	.....	19359
Mission Street .....	.....	.....	6884	6820	.....
7th Street .....	3343	2312	.....	.....	.....
MISSION ST. & SILVER AVE.....	.....	.....	.....	.....	10602
Mission Street .....	4568	4389	.....	.....	.....
Silver Avenue .....	.....	.....	647	998	.....
MISSION & 6TH STS.....	.....	.....	.....	.....	24532
Mission Street .....	.....	.....	6620	8091	.....
6th Street .....	4064	5757	.....	.....	.....
MISSION & SPEAR STS.....	.....	.....	.....	.....	8729
Mission Street .....	.....	.....	3643	3674	.....
Spear Street .....	680	732	.....	.....	.....
MISSION & STEUART STS.....	.....	.....	.....	.....	8287
Mission Street.....	.....	.....	3278	3604	.....
Steuart Street .....	659	746	.....	.....	.....
MISSION & 10TH STS.....	.....	.....	.....	.....	27440
Mission Street.....	.....	.....	6193	6814	.....
10th Street.....	6878	7555	.....	.....	.....
MISSION & 3RD STS.....	.....	.....	.....	.....	23397
Mission Street.....	.....	.....	7043	6363	.....
3rd Street .....	4431	5560	.....	.....	.....
MISSION & 20TH STS.....	.....	.....	.....	.....	12314
Mission Street.....	4725	5214	.....	.....	.....
20th Street.....	.....	.....	1126	1249	.....
MISSION & 25TH STS.....	.....	.....	.....	.....	9853
Mission Street.....	3710	3871	.....	.....	.....
25th Street.....	.....	.....	923	1349	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
MISSION & 21ST STS.....					12530
Mission Street.....	5029	4997			
21st Street.....			1329	1175	
MISSION & 29TH STS.....					14469
Mission Street.....	6085	7476			
29th Street.....			908		
MISSION & 22ND STS.....					11772
Mission Street.....	4186	4637			
22nd Street.....			1558	1391	
MISSION & 26TH STS.....					9391
Mission Street.....	3374	3828			
26th Street.....			966	1223	
MISSION & 23RD STS.....					11270
Mission Street.....	3829	4511			
23rd Street.....			1503	1427	
MONTECITO AVE. & MONTEREY BLVD. ....					4322
Montecito Avenue .....	279				
Monterey Boulevard .....			1850	2193	
MONTEREY BLVD. & PLYMOUTH AVE. ....					5020
Monterey Boulevard .....			1988	1899	
Plymouth Avenue .....	454	679			
MONTEREY BLVD., SAN ANSELMO & SANTA CLARA AVES.....					3728
Monterey Boulevard .....			243		
Monterey Boulevard .....N.W. ....				1744	
San Anselmo Avenue.....S.W. ....				146	
Santa Clara Avenue.....S.E. ....				1595	
MONTGOMERY & PINE STS.....					14186
Montgomery Street .....	3984	4365			
Pine Street .....			2893	2944	
MONTGOMERY & SUTTER STS.....					13626
Montgomery Street .....	3951	4570			
Sutter Street .....			2976	2129	

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
MOUNT VERNON & SAN JOSE AVES.....	.....	.....	.....	.....	4027
Mount Vernon Avenue.....	.....	.....	167	.....	.....
San Jose Avenue.....	1857	2003	.....	.....	.....
NAPLES ST. & PERSIA AVE.....	.....	.....	.....	.....	1352
Naples Street .....	382	214	.....	.....	.....
Persia Avenue .....	.....	.....	375	381	.....
NINETEENTH AVE. & NORIEGA ST.....	.....	.....	.....	.....	7724
Nineteenth Avenue .....	3574	3654	.....	.....	.....
Noriega Street .....	.....	.....	356	140	.....
NINETEENTH AVE. EXTENSION & OCEAN AVE.....	.....	.....	.....	.....	6789
Nineteenth Avenue .....	2039	3141	.....	.....	.....
Ocean Avenue.....	.....	.....	323	1286	.....
NINETEENTH AVE. & ORTEGA ST.....	.....	.....	.....	.....	7546
Nineteenth Avenue.....	3537	3721	.....	.....	.....
Ortega Street .....	.....	.....	133	155	.....
NINETEENTH AVE. & SLOAT BLVD.....	.....	.....	.....	.....	10457
Nineteenth Avenue.....	2619	2850	.....	.....	.....
Sloat Boulevard.....	.....	.....	2726	2262	.....
NINETEENTH AVE. & TARAVAL ST.....	.....	.....	.....	.....	10068
Nineteenth Avenue.....	3133	3287	.....	.....	.....
Taraval Street .....	.....	.....	1783	1865	.....
NINETEENTH AVE. & ULLOA ST.....	.....	.....	.....	.....	7083
Nineteenth Avenue.....	3234	2916	.....	.....	.....
Ulloa Street .....	.....	.....	588	345	.....
NINETEENTH AVE. & VICENTE ST.....	.....	.....	.....	.....	8034
Nineteenth Avenue.....	3029	2907	.....	.....	.....
Vicente Street.....	.....	.....	1020	1078	.....
NINETEENTH AVE. & VALENCIA STS.....	.....	.....	.....	.....	13279
Nineteenth Street.....	.....	.....	1298	1090	.....
Valencia Street.....	5805	5086	.....	.....	.....
NINETEENTH ST. & VAN NESS AVE. SOUTH.....	.....	.....	.....	.....	12227
Nineteenth Street.....	.....	.....	939	739	.....
Van Ness Avenue South.....	5275	5274	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
NORIEGA & TWENTY-FOURTH STS.....	.....	.....	.....	.....	3946
Noe Street.....	337	572	.....	.....	.....
Twenty-fourth Street.....	.....	.....	1184	1853	.....
NORIEGA ST. & SUNSET BLVD.....	.....	.....	.....	.....	2211
Noriega Street.....	.....	.....	197	180	.....
Sunset Boulevard.....	1036	798	.....	.....	.....
NORIEGA STREET & TWENTY-FIFTH AVE.....	.....	.....	.....	.....	729
Noriega Street.....	.....	.....	308	277	.....
Twenty-fifth Avenue.....	.....	144	.....	.....	.....
NORTH POINT & POLK STS.....	.....	.....	.....	.....	552
Polk Street.....	340	212	.....	.....	.....
(Polk Street only).....	.....	.....	.....	.....	.....
OAK & SHRADER STS.....	.....	.....	.....	.....	4691
Oak Street.....	.....	.....	1343	2966	.....
Shrader Street.....	382	.....	.....	.....	.....
OAK & STANYAN STS.....	.....	.....	.....	.....	8847
Oak Street.....	.....	.....	.....	2966	.....
Stanyan Street.....	2956	2925	.....	.....	.....
OAKDALE AVE. & THIRD ST.....	.....	.....	.....	.....	10498
Oakdale Avenue.....	.....	.....	874	168	.....
Third Street.....	4824	4632	.....	.....	.....
OAKDALE AVE. & QUINT ST.....	.....	.....	.....	.....	2498
Oakdale Avenue.....	.....	.....	1077	1177	.....
Quint Street.....	208	36	.....	.....	.....
OAKDALE AVE. & SELBY ST.....	.....	.....	.....	.....	2428
Oakdale Avenue.....	.....	.....	1160	1168	.....
Selby Street.....	100	.....	.....	.....	.....
OCEAN & ONONDAGA AVES.....	.....	.....	.....	.....	4480
Ocean Avenue.....	.....	.....	2279	.....	.....
Ocean Avenue.....	.....	.....	.....	1576	.....
Onondaga Avenue.....N.W.	.....	.....	.....	.....	625

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
OCEAN & PHELAN AVES.....	.....	.....	.....	.....	5933
Ocean Avenue .....	.....	.....	3041	2628	.....
Phelan Avenue .....	.....	264	.....	.....	.....
OCEAN & SAN JOSE AVES.....	.....	.....	.....	.....	10608
Ocean Avenue .....	.....	.....	3122	2176	.....
San Jose Avenue.....	2237	3073	.....	.....	.....
O'FARRELL & POLK STS.....	.....	.....	.....	.....	13311
O'Farrell Street .....	.....	.....	2345	2876	.....
Polk Street .....	3847	4209	.....	.....	.....
O'FARRELL & POWELL STS.....	.....	.....	.....	.....	9663
O'Farrell Street.....	.....	.....	2708	2481	.....
Powell Street.....	2065	2409	.....	.....	.....
O'FARRELL & STOCKTON STS.....	.....	.....	.....	.....	11154
O'Farrell Street.....	.....	.....	2879	2301	.....
Stockton Street.....	2775	3199	.....	.....	.....
O'FARRELL & TAYLOR STS.....	.....	.....	.....	.....	12339
O'Farrell Street.....	.....	.....	2922	2718	.....
Taylor Street.....	3722	2977	.....	.....	.....
PACIFIC & PRESIDIO AVES.....	.....	.....	.....	.....	2521
Pacific Avenue.....	.....	.....	155	366	.....
Presidio Avenue.....	1059	941	.....	.....	.....
PACIFIC AVE. & SCOTT ST.....	.....	.....	.....	.....	5913
Pacific Avenue.....	.....	.....	1072	2022	.....
Scott Street.....	1225	1594	.....	.....	.....
PACIFIC AVE. & STOCKTON STS.....	.....	.....	.....	.....	10440
Pacific Avenue.....	.....	.....	3177	2701	.....
Stockton Street.....	2396	2166	.....	.....	.....
PACIFIC & VAN NESS AVES.....	.....	.....	.....	.....	22575
Pacific Avenue.....	.....	.....	3286	3046	.....
Van Ness Avenue.....	7472	8771	.....	.....	.....
PACIFIC AVE. & WEBSTER ST.....	.....	.....	.....	.....	7549
Pacific Avenue.....	.....	.....	2450	2183	.....
Webster Street.....	1500	1416	.....	.....	.....



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
PAGE & SCOTT STS.....	.....	.....	.....	.....	11184
Page Street.....	.....	.....	1115	1089	.....
Scott Street.....	4786	4194	.....	.....	.....
PAGE & STEINER STS.....	.....	.....	.....	.....	4347
Page Street.....	.....	.....	1023	866	.....
Steiner Street.....	1363	1095	.....	.....	.....
PARKER AVE. & TURK ST.....	.....	.....	.....	.....	7868
Parker Avenue.....	427	.....	.....	.....	.....
Turk Street.....	.....	.....	3537	3904	.....
PARNASSUS AVE. & STANYAN ST.....	.....	.....	.....	.....	4984
Parnassus Avenue.....	.....	.....	1983	850	.....
Stanyan Street.....	992	1159	.....	.....	.....
PINE & POWELL STS.....	.....	.....	.....	.....	9471
Pine Street.....	.....	.....	3165	3221	.....
Powell Street.....	1403	1682	.....	.....	.....
PINE & SANSOME STS.....	.....	.....	.....	.....	10403
Pine Street.....	.....	.....	2927	2600	.....
Sansome Street.....	2328	2548	.....	.....	.....
PINE & TAYLOR STS.....	.....	.....	.....	.....	8405
Pine Street.....	.....	.....	3514	3329	.....
Taylor Street.....	841	721	.....	.....	.....
PINE ST. & VAN NESS AVE.....	.....	.....	.....	.....	23470
Pine Street.....	.....	.....	2732	3044	.....
Van Ness Avenue.....	8500	9194	.....	.....	.....
POLK & POST STS.....	.....	.....	.....	.....	17079
Polk Street.....	4117	4389	.....	.....	.....
Post Street.....	.....	.....	4440	4133	.....
POLK & VALLEJO STS.....	.....	.....	.....	.....	7407
Polk Street.....	2767	2622	.....	.....	.....
Vallejo Street.....	.....	.....	1018	1000	.....
POLK & WASHINGTON STS.....	.....	.....	.....	.....	7955
Polk Street.....	1306	602	.....	.....	.....
Washington Street.....	.....	.....	2994	3053	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<b>PORTOLA DRIVE &amp; TWIN PEAKS BLVD.</b>					
Portola Drive .....			5631		
Portola Drive .....				5049	
Twin Peaks Boulevard.....S.W.				140	
<b>PORTOLA DRIVE, SANTA CLARA AVE. &amp; VICENTE STS.</b>					
Portola Drive .....N.E.				3359	
Portola Drive .....S.W.				4199	
Santa Clara Avenue.....1986					
Vicente Street .....S.E.				1355	
<b>PORTOLA DRIVE &amp; WOODSIDE AVE.</b>					
Portola Drive .....N.E.				4107	
Portola Drive .....S.W.				4905	
Woodside Avenue .....			1792		
<b>POST &amp; POWELL STS.</b>					
Post Street .....			4815	4216	
Powell Street .....	2047	3032			
<b>POST ST. &amp; PRESIDIO AVE.</b>					
Post Street .....				2948	
Presidio Avenue .....	5879	4046			
<b>POST &amp; SCOTT STS.</b>					
Post Street .....			3684	3494	
Scott Street .....	1798	1224			
<b>POST &amp; STOCKTON STS.</b>					
Post Street .....			4148	3592	
Stockton Street .....	4084	3625			
<b>POST &amp; TAYLOR STS.</b>					
Post Street .....			4705	3586	
Taylor Street .....	3510	1995			
<b>POST ST. &amp; VAN NESS AVE.</b>					
Post Street .....			4119	3282	
Van Ness Avenue.....	9079	9417			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
POTRERO AVE. & SEVENTEENTH ST. ....					28855
Potrero Avenue.....	12079	11106			
Seventeenth Street .....			2620	3050	
POTRERO AVE. & SIXTEENTH ST. ....					25531
Potrero Avenue.....	12079	11106			
Sixteenth Street .....			1540	1051	
POTRERO AVE. & TWENTY-FIRST ST. ....					25975
Potrero Avenue.....	13487	12049			
Twenty-first Street .....			439		
POTRERO AVE. & TWENTY-FOURTH ST. ....					26877
Potrero Avenue.....	12419	12098			
Twenty-fourth Street .....			1519	841	
POTRERO AVE. BETWEEN TWENTY-SECOND AND TWENTY-THIRD STS. ....					23965
Potrero Avenue.....	12741	11224			
POWELL & SUTTER STS. ....					12717
Powell Street .....	2511	2190			
Sutter Street .....			4086	3930	
RHODE ISLAND & SEVENTEENTH STS. ....					6417
Rhode Island Street.....	277	168			
Seventeenth Street .....			3043	2929	
RHODE ISLAND & SIXTEENTH STS. ....					926
Rhode Island Street.....	212	18			
Sixteenth Street .....			435	261	
*SACRAMENTO & SANSOME STS. ....					6512
Sacramento Street .....			8	1936	
Sansome Street .....	2201	2367			
SACRAMENTO & SCOTT STS. ....					3732
Sacramento Street .....			873	833	
Scott Street .....	932	1094			

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
*SACRAMENTO & STOCKTON STS. ....	.....	.....	.....	.....	7683
Sacramento Street .....	.....	.....	12	1146	.....
Stockton Street .....	3433	3092	.....	.....	.....
SACRAMENTO ST. & VAN NESS AVE.....	.....	.....	.....	.....	20249
Sacramento Street .....	.....	.....	1153	1510	.....
Van Ness Avenue.....	8618	8968	.....	.....	.....
SAN BRUNO & SILVER AVES.....	.....	.....	.....	.....	3408
San Bruno Avenue.....	951	542	.....	.....	.....
Silver Avenue .....	.....	.....	799	1116	.....
SANCHEZ & SEVENTEENTH STS.....	.....	.....	.....	.....	7507
Sanchez Street .....	965	1687	.....	.....	.....
Seventeenth Street .....	.....	.....	2225	2630	.....
SANCHEZ & TWENTY-THIRD STS....	.....	.....	.....	.....	2063
Sanchez Street .....	292	250	.....	.....	.....
Twenty-third Street .....	.....	.....	797	724	.....
SAN JOSE & SENECA AVES.....	.....	.....	.....	.....	4771
San Jose Avenue.....	2070	2486	.....	.....	.....
Seneca Avenue .....	.....	.....	.....	215	.....
*SANSOME & WASHINGTON STS.....	.....	.....	.....	.....	6285
Sansome Street .....	2068	1835	.....	.....	.....
Washington Street .....	.....	.....	23	2359	.....
SCHWERIN ST. & VISITACION AVE.....	.....	.....	.....	.....	721
Schwerin Street .....	293	172	.....	.....	.....
Visitation Avenue .....	.....	.....	112	144	.....
SCOTT & UNION STS.....	.....	.....	.....	.....	3326
Scott Street .....	1028	1135	.....	.....	.....
Union Street .....	.....	.....	576	587	.....
SCOTT & VALLEJO STS.....	.....	.....	.....	.....	3328
Scott Street .....	1544	1419	.....	.....	.....
Vallejo Street .....	.....	.....	257	108	.....
SEVENTEENTH ST. & TREAT AVE.....	.....	.....	.....	.....	6808
Seventeenth Street .....	.....	.....	1774	2029	.....
Treat Avenue .....	758	2247	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
SEVENTEENTH & VALENCIA STS.....					15587
Seventeenth Street .....			2537	2659	
Valencia Street .....	5810	4581			
SEVENTEENTH ST. & VAN NESS AVE. SOUTH.....					15726
Seventeenth Street .....			2450	2297	
Van Ness Avenue South.....	5218	5761			
SEVENTH & TOWNSEND STS.....					10122
Seventh Street .....	2320	1599			
Townsend Street .....			2786	3417	
SIXTEENTH & THIRD STS.....					12391
Sixteenth Street .....			492	410	
Third Street .....	5431	6058			
SIXTEENTH & VALENCIA STS.....					14849
Sixteenth Street .....			2309	2494	
Valencia Street .....	5324	4722			
SIXTEENTH ST. & VAN NESS AVE. SOUTH.....					16117
Sixteenth Street .....			2028	2154	
Van Ness Avenue South.....	5506	6429			
SLOAT & SUNSET BLVDS.....					5308
Sloat Boulevard .....			2661	1840	
Sunset Boulevard .....	423	384			
STANYAN & WALLER STS.....					10400
Stanyan Street .....	2627	4664			
Golden Gate Park Drive.....			1963		
Waller Street .....				1146	
STEINER & SUTTER STS.....					6869
Steiner Street .....	2628	2374			
Sutter Street .....			804	1063	
STEINER & TURK STS.....					10030
Steiner Street .....	2050	2638			
Turk Street .....			2922	2420	



## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
STEINER & WALLER STS.....	.....	.....	.....	.....	7572
Steiner Street .....	3767	1399	.....	.....	.....
Waller Street .....	.....	.....	1930	476	.....
STOCKTON & SUTTER STS.....	.....	.....	.....	.....	15224
Stockton Street .....	3916	3357	.....	.....	.....
Sutter Street .....	.....	.....	4381	3570	.....
STOCKTON & WASHINGTON STS....	.....	.....	.....	.....	7836
Stockton Street .....	2965	2932	.....	.....	.....
Washington Street .....	.....	.....	715	1224	.....
SUNSET BLVD. & TARAVAL ST.....	.....	.....	.....	.....	2610
Sunset Boulevard .....	699	684	.....	.....	.....
Taraval Street .....	.....	.....	608	619	.....
SUNSET BLVD. & ULLOA ST.....	.....	.....	.....	.....	1350
Sunset Boulevard .....	658	562	.....	.....	.....
Ulloa Street .....	.....	.....	19	111	.....
SUNSET BLVD. & VICENTE ST.....	.....	.....	.....	.....	1474
Sunset Boulevard .....	577	547	.....	.....	.....
Vicente Street .....	.....	.....	95	255	.....
SUTTER & TAYLOR STS.....	.....	.....	.....	.....	11197
Sutter Street .....	.....	.....	2840	3369	.....
Taylor Street .....	3010	1978	.....	.....	.....
SUTTER ST. & VAN NESS AVE.....	.....	.....	.....	.....	22183
Sutter Street .....	.....	.....	1541	2211	.....
Van Ness Avenue.....	9041	9390	.....	.....	.....
TARAVAL ST. & THIRTY-FIRST AVE. ....	.....	.....	.....	.....	2400
Taraval Street .....	.....	.....	1006	1137	.....
Thirty-first Avenue .....	102	155	.....	.....	.....
TARAVAL ST. & TWENTIETH AVE. ....	.....	.....	.....	.....	4483
Taraval Street .....	.....	.....	1771	2055	.....
Twentieth Avenue .....	307	350	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
TARAVAL ST. & TWENTY-EIGHTH AVE. ....	.....	.....	.....	.....	2804
Taraval Street .....	.....	.....	1226	1284	.....
Twenty-eighth Avenue .....	121	173	.....	.....	.....
TAYLOR & TURK STS. ....	.....	.....	.....	.....	13469
Taylor Street .....	3826	3964	.....	.....	.....
Turk Street .....	.....	.....	2975	2704	.....
THIRD & TOWNSEND STS. ....	.....	.....	.....	.....	15024
Third Street .....	4538	4771	.....	.....	.....
Townsend Street .....	.....	.....	3458	2257	.....
THIRTY-THIRD AVE. & VICENTE ST. ....	.....	.....	.....	.....	705
Thirty-Third Avenue .....	133	90	.....	.....	.....
Vicente Street .....	.....	.....	203	279	.....
TURK ST. & VAN NESS AVE. ....	.....	.....	.....	.....	23668
Turk Street .....	.....	.....	3116	2461	.....
Van Ness Avenue .....	9382	8709	.....	.....	.....
TWENTIETH & VALENCIA STS. ....	.....	.....	.....	.....	12845
Twentieth Street .....	.....	.....	660	1055	.....
Valencia Street .....	5911	5219	.....	.....	.....
TWENTY-FOURTH & VALENCIA STS. ....	.....	.....	.....	.....	11696
Twenty-Fourth Street .....	.....	.....	1605	1537	.....
Valencia Street .....	4221	4333	.....	.....	.....
TWENTY-FOURTH ST. & VAN NESS AVE. SOUTH. ....	.....	.....	.....	.....	10275
Twenty-Fourth Street .....	.....	.....	1753	1575	.....
Van Ness Avenue South .....	3372	3575	.....	.....	.....
TWENTY-SECOND & VALENCIA STS. ....	.....	.....	.....	.....	13438
Twenty-second Street .....	.....	.....	1817	1421	.....
Valencia Street .....	4790	5410	.....	.....	.....

## APPENDIX I

## TRAFFIC FLOW AT INTERSECTIONS

INTERSECTION	NORTH	SOUTH	EAST	WEST	TOTAL
<hr/>					
TWENTY-SECOND ST. & VAN NESS AVE. SOUTH.....	.....	.....	.....	.....	11600
Twenty-second Street .....	.....	.....	1289	1027	.....
Van Ness Avenue South.....	4310	4974	.....	.....	.....
<hr/>					
ULLOA ST. & WEST PORTAL AVE. ....	.....	.....	.....	.....	4823
Ulloa Street .....	.....	.....	1311	1396	.....
West Portal Avenue .....	1864	252	.....	.....	.....
<hr/>					
UNION ST. & VAN NESS AVE.....	.....	.....	.....	.....	15103
Union Street .....	.....	.....	1043	737	.....
Van Ness Avenue.....	6402	6921	.....	.....	.....
<hr/>					
VALLEJO ST. & VAN NESS AVE.....	.....	.....	.....	.....	16088
Vallejo Street .....	.....	.....	974	978	.....
Van Ness Avenue.....	6539	7597	.....	.....	.....
<hr/>					
VICENTE ST. & WEST PORTAL AVE. ....	.....	.....	.....	.....	6765
Vicente Street .....	.....	.....	1072	1621	.....
West Portal Avenue.....	2008	2064	.....	.....	.....



APPENDIX II

PEDESTRIAN FLOW  
*and*  
SIDEWALK OBSTRUCTIONS



## APPENDIX II

## PEDESTRIAN FLOW

Taken During February, March and April, 1937, on Streets  
of the Central Business District and Selected  
Outlying Sub-Centers

(Streets marked with asterisk (\*) indicate a six-hour count from 12 Noon until  
6 P. M. All others counted for twelve hours, from 7 A. M. to 7 P. M.)

BATTERY STREET  
BETWEEN MARKET AND CALIFORNIA STREETS

	EAST SIDE	WEST SIDE
Market and Bush Sts.		
North Bound.....		3,705
South Bound.....		2,125
TOTAL.....		<u>5,830</u>
Bush and Pine Sts.		
North Bound.....	1,494	2,645
South Bound.....	1,960	2,315
TOTAL.....	<u>3,454</u>	<u>4,960</u>
Pine and California Sts.		
North Bound.....	1,497	2,383
South Bound.....	1,913	2,203
TOTAL.....	<u>3,410</u>	<u>4,586</u>

BUSH STREET  
BETWEEN MARKET STREET AND GRANT AVENUE

	NORTH SIDE	SOUTH SIDE
Market and Battery Sts.		
East Bound.....	2,657	
West Bound.....	3,809	
TOTAL.....	<u>6,466</u>	
Battery and Sansome Sts.		
East Bound.....	3,625	1,929
West Bound.....	3,829	1,179
TOTAL.....	<u>7,454</u>	<u>3,108</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Sansome and Montgomery Sts.		
East Bound.....	5,381	4,109
West Bound.....	5,159	4,658
TOTAL.....	<u>10,540</u>	<u>8,767</u>
Montgomery and Kearny Sts.		
East Bound.....		4,554
West Bound.....		4,125
TOTAL.....		<u>8,679</u>
Montgomery and Belden Sts.		
East Bound.....	4,849	
West Bound.....	5,016	
TOTAL.....	<u>9,865</u>	
Belden and Kearny Sts.		
East Bound.....	4,286	
West Bound.....	4,468	
TOTAL.....	<u>8,754</u>	
Kearny St. and Grant Ave.		
East Bound.....	4,703	2,633
West Bound.....	4,627	2,041
TOTAL.....	<u>9,330</u>	<u>4,674</u>

CHESTNUT STREET  
BETWEEN FILLMORE AND SCOTT STREETS

	NORTH SIDE	SOUTH SIDE
*Fillmore St. and Mallorca Way		
East Bound.....	1,523	
West Bound.....	1,840	
TOTAL.....	<u>3,363</u>	
*Fillmore and Steiner Sts.		
East Bound.....	670	
West Bound.....	548	
TOTAL.....	<u>1,218</u>	

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
*Mallorca Way and Pierce Sts.		
East Bound.....	1,825	
West Bound.....	2,418	
TOTAL.....	<u>4,243</u>	
*Steiner and Pierce Sts.		
East Bound.....		1,104
West Bound.....		1,101
TOTAL.....		<u>2,205</u>
*Pierce and Scott Sts.		
East Bound.....	1,018	1,507
West Bound.....	1,419	1,431
TOTAL.....	<u>2,437</u>	<u>2,938</u>

CLEMENT STREET  
BETWEEN FIFTH AND TENTH AVENUES

	NORTH SIDE	SOUTH SIDE
*Fifth and Sixth Aves.		
East Bound.....	1,025	555
West Bound.....	1,029	420
TOTAL.....	<u>2,054</u>	<u>975</u>
*Sixth and Seventh Aves.		
East Bound.....	960	1,139
West Bound.....	1,201	929
TOTAL.....	<u>2,161</u>	<u>2,068</u>
*Seventh and Eighth Aves.		
East Bound.....	1,223	1,345
West Bound.....	1,630	947
TOTAL.....	<u>2,853</u>	<u>2,292</u>
*Eighth and Ninth Aves.		
East Bound.....	1,050	1,603
West Bound.....	1,279	1,416
TOTAL.....	<u>2,329</u>	<u>3,019</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
*Ninth and Tenth Aves.		
East Bound.....	858	737
West Bound.....	950	748
TOTAL.....	<u>1,808</u>	<u>1,485</u>

EDDY STREET  
BETWEEN POWELL AND TAYLOR STREETS

	NORTH SIDE	SOUTH SIDE
Powell St. and Anna Lane		
East Bound.....	2,528	
West Bound.....	2,643	
TOTAL.....	<u>5,171</u>	
Anna Lane and Mason St.		
East Bound.....	2,622	
West Bound.....	2,560	
TOTAL.....	<u>5,182</u>	
Powell and Mason Sts.		
East Bound.....		1,943
West Bound.....		1,506
TOTAL.....		<u>3,449</u>
Mason and Taylor Sts.		
East Bound.....	2,939	1,933
West Bound.....	2,454	1,838
TOTAL.....	<u>5,393</u>	<u>3,771</u>

ELLIS STREET  
BETWEEN STOCKTON AND TAYLOR STREETS

	NORTH SIDE	SOUTH SIDE
Stockton and Powell Sts.		
East Bound.....	3,537	4,105
West Bound.....	4,731	2,763
TOTAL.....	<u>8,268</u>	<u>6,868</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Powell and Mason Sts.		
East Bound.....	3,729	
West Bound.....	3,621	
TOTAL.....	<u>7,350</u>	
Powell St. and Anna Lane		
East Bound.....		3,033
West Bound.....		2,834
TOTAL.....		<u>5,867</u>
Anna Lane and Mason St.		
East Bound.....		2,665
West Bound.....		2,465
TOTAL.....		<u>5,130</u>
Mason and Taylor Sts.		
East Bound.....	1,580	1,666
West Bound.....	1,746	1,286
TOTAL.....	<u>3,326</u>	<u>2,952</u>

FIFTH STREET  
BETWEEN MARKET AND HOWARD STREETS

	EAST SIDE	WEST SIDE
Market and Mission Sts.		
North Bound.....	7,698	4,330
South Bound.....	8,766	5,879
TOTAL.....	<u>16,464</u>	<u>10,209</u>
Mission and Howard Sts.		
North Bound.....	2,733	1,920
South Bound.....	2,903	2,188
TOTAL.....	<u>5,636</u>	<u>4,108</u>



## APPENDIX II

FILLMORE STREET  
BETWEEN FULTON AND SACRAMENTO STREETS

	EAST SIDE	WEST SIDE
*Fulton and McAllister Sts.		
North Bound.....	762	847
South Bound.....	637	698
TOTAL.....	<u>1,399</u>	<u>1,545</u>
*McAllister St. and Golden Gate Ave.		
North Bound.....	2,330	1,391
South Bound.....	1,803	1,649
TOTAL.....	<u>4,133</u>	<u>3,040</u>
*Golden Gate Ave. and Turk St.		
North Bound.....	1,734	1,511
South Bound.....	1,217	1,701
TOTAL.....	<u>2,951</u>	<u>3,212</u>
*Turk and Eddy Sts.		
North Bound.....	2,758	1,249
South Bound.....	2,468	1,655
TOTAL.....	<u>5,226</u>	<u>2,904</u>
*Eddy and Ellis Sts.		
North Bound.....	3,144	1,652
South Bound.....	2,677	2,357
TOTAL.....	<u>5,821</u>	<u>4,009</u>
*Ellis and O'Farrell Sts.		
North Bound.....	3,171	2,042
South Bound.....	2,608	2,812
TOTAL.....	<u>5,779</u>	<u>4,854</u>
*O'Farrell and Geary Sts.		
North Bound.....	3,410	2,855
South Bound.....	2,604	3,276
TOTAL.....	<u>6,014</u>	<u>6,131</u>
*Geary and Post Sts.		
North Bound.....	3,325	3,222
South Bound.....	2,633	3,623
TOTAL.....	<u>5,958</u>	<u>6,845</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
*Post and Sutter Sts.		
North Bound.....	2,353	2,148
South Bound.....	2,144	2,333
TOTAL.....	<u>4,497</u>	<u>4,481</u>
*Sutter and Bush Sts.		
North Bound.....	570	1,194
South Bound.....	1,040	1,227
TOTAL.....	<u>1,610</u>	<u>2,421</u>
*Bush and Pine Sts.		
North Bound.....	633	657
South Bound.....	774	855
TOTAL.....	<u>1,407</u>	<u>1,512</u>
*Pine and California Sts.		
North Bound.....	637	578
South Bound.....	730	741
TOTAL.....	<u>1,367</u>	<u>1,319</u>
*California and Sacramento Sts.		
North Bound.....	451	475
South Bound.....	549	590
TOTAL.....	<u>1,000</u>	<u>1,065</u>

FIRST STREET  
BETWEEN MARKET AND MISSION STREETS

	EAST SIDE	WEST SIDE
Market and Stevenson Sts.		
North Bound.....		2,721
South Bound.....		2,908
TOTAL.....		<u>5,629</u>
Stevenson and Mission Sts.		
North Bound.....		2,436
South Bound.....		2,781
TOTAL.....		<u>5,217</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
Market and Mission Sts.		
North Bound.....	2,200	
South Bound.....	1,681	
TOTAL.....	<u>3,881</u>	

FOURTH STREET  
BETWEEN MARKET AND HOWARD STREETS

	EAST SIDE	WEST SIDE
Market and Mission Sts.		
North Bound.....	5,847	4,943
South Bound.....	8,145	5,849
TOTAL.....	<u>13,992</u>	<u>10,792</u>
Mission and Howard Sts.		
North Bound.....	4,401	2,814
South Bound.....	3,735	4,317
TOTAL.....	<u>8,136</u>	<u>7,131</u>

FREMONT STREET  
BETWEEN MARKET AND MISSION STREETS

	EAST SIDE	WEST SIDE
Market and Mission Sts.		
North Bound.....	1,362	818
South Bound.....	906	1,248
TOTAL.....	<u>2,268</u>	<u>2,006</u>

FRONT STREET  
BETWEEN BUSH AND CALIFORNIA STREETS

	EAST SIDE	WEST SIDE
Bush and Pine Sts.		
North Bound.....	817	1,682
South Bound.....	1,139	1,390
TOTAL.....	<u>1,956</u>	<u>3,072</u>
Pine and California Sts.		
North Bound.....	764	1,212
South Bound.....	968	1,098
TOTAL.....	<u>1,732</u>	<u>2,310</u>

APPENDIX II  
GEARY STREET  
BETWEEN KEARNY AND TAYLOR STREETS

	NORTH SIDE	SOUTH SIDE
Kearny St. and Grant Ave.		
East Bound.....	4,131	4,244
West Bound.....	5,071	3,610
TOTAL.....	<u>9,202</u>	<u>7,854</u>
Grant Ave. and Stockton St.		
East Bound.....	5,623	10,793
West Bound.....	6,945	9,022
TOTAL.....	<u>12,568</u>	<u>19,815</u>
Stockton and Powell Sts.		
East Bound.....	2,188	7,887
West Bound.....	2,327	7,322
TOTAL.....	<u>4,515</u>	<u>15,209</u>
Powell and Mason Sts.		
East Bound.....	4,744	5,265
West Bound.....	4,127	5,224
TOTAL.....	<u>8,871</u>	<u>10,489</u>
Mason and Taylor Sts.		
East Bound.....	3,204	3,540
West Bound.....	2,778	3,193
TOTAL.....	<u>5,982</u>	<u>6,733</u>

GEARY BOULEVARD  
BETWEEN SIXTEENTH AVENUE AND TWENTY-THIRD AVENUE

	NORTH SIDE	SOUTH SIDE
Sixteenth and Seventeenth Aves.		
East Bound.....	168	565
West Bound.....	202	513
TOTAL.....	<u>370</u>	<u>1,078</u>
Seventeenth and Eighteenth Aves.		
East Bound.....	303	557
West Bound.....	287	477
TOTAL.....	<u>590</u>	<u>1,034</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Eighteenth and Nineteenth Aves.		
East Bound.....	421	897
West Bound.....	394	903
TOTAL.....	<u>815</u>	<u>1,800</u>
Nineteenth and Twentieth Aves.		
East Bound.....	581	850
West Bound.....	524	754
TOTAL.....	<u>1,105</u>	<u>1,604</u>
Twentieth and Twenty-first Aves.		
East Bound.....	450	1,037
West Bound.....	397	1,054
TOTAL.....	<u>847</u>	<u>2,091</u>
Twenty-first and Twenty-second Aves.		
East Bound.....	725	887
West Bound.....	534	770
TOTAL.....	<u>1,259</u>	<u>1,657</u>
Twenty-second and Twenty-third Aves.		
East Bound.....	564	713
West Bound.....	508	744
TOTAL.....	<u>1,072</u>	<u>1,457</u>

## GRANT AVENUE

## BETWEEN O'FARRELL STREET AND BROADWAY

	EAST SIDE	WEST SIDE
O'Farrell and Geary Sts.		
North Bound.....	6,917	7,776
South Bound.....	9,623	7,934
TOTAL.....	<u>16,540</u>	<u>15,710</u>
Geary St. and Maiden Lane		
North Bound.....	14,403	9,698
South Bound.....	15,411	9,867
TOTAL.....	<u>29,814</u>	<u>19,565</u>



## APPENDIX II

	EAST SIDE	WEST SIDE
Maiden Lane and Post St.		
North Bound.....	12,966	9,198
South Bound.....	13,034	9,640
TOTAL.....	<u>26,000</u>	<u>18,838</u>
Post and Sutter Sts.		
North Bound.....	12,441	5,512
South Bound.....	12,840	6,138
TOTAL.....	<u>25,281</u>	<u>11,650</u>
Sutter and Bush Sts.		
North Bound.....	4,041	3,984
South Bound.....	4,726	3,996
TOTAL.....	<u>8,767</u>	<u>7,980</u>
Bush and Pine Sts.		
North Bound.....	2,079	1,487
South Bound.....	2,087	2,223
TOTAL.....	<u>4,166</u>	<u>3,710</u>
Pine and California Sts.		
North Bound.....	1,854	1,409
South Bound.....	1,786	2,063
TOTAL.....	<u>3,640</u>	<u>3,472</u>
California and Sacramento Sts.		
North Bound.....	1,426	1,612
South Bound.....	1,501	1,763
TOTAL.....	<u>2,927</u>	<u>3,375</u>
Sacramento and Clay Sts.		
North Bound.....	3,039	2,128
South Bound.....	2,726	2,485
TOTAL.....	<u>5,765</u>	<u>4,613</u>
Clay and Washington Sts.		
North Bound.....	3,851	3,256
South Bound.....	3,344	3,850
TOTAL.....	<u>7,195</u>	<u>7,106</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
Washington and Jackson Sts.		
North Bound.....	3,880	4,390
South Bound.....	3,641	4,686
TOTAL.....	<u>7,521</u>	<u>9,076</u>
Jackson and Pacific Sts.		
North Bound.....	3,394	2,290
South Bound.....	2,479	2,921
TOTAL.....	<u>5,873</u>	<u>5,211</u>
Pacific St. and Broadway		
North Bound.....	2,409	1,765
South Bound.....	1,909	2,370
TOTAL.....	<u>4,318</u>	<u>4,135</u>

## HAIGHT STREET

## BETWEEN MASONIC AVENUE AND STANYAN STREET

	NORTH SIDE	SOUTH SIDE
*Masonic Ave. and Ashbury St.		
East Bound.....	1,209	780
West Bound.....	1,498	543
TOTAL.....	<u>2,707</u>	<u>1,323</u>
*Ashbury and Clayton Sts.		
East Bound.....	1,854	1,361
West Bound.....	2,199	1,103
TOTAL.....	<u>4,053</u>	<u>2,464</u>
*Clayton and Cole Sts.		
East Bound.....	1,697	
West Bound.....	2,095	
TOTAL.....	<u>3,792</u>	
*Clayton and Belvedere Sts.		
East Bound.....		1,352
West Bound.....		973
TOTAL.....		<u>2,325</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
*Belvedere and Cole Sts.		
East Bound.....		1,311
West Bound.....		1,141
TOTAL.....		<u>2,452</u>
*Cole and Shrader Sts.		
East Bound.....	873	634
West Bound.....	674	498
TOTAL.....	<u>1,547</u>	<u>1,132</u>
*Shrader and Stanyan Sts.		
East Bound.....	338	295
West Bound.....	280	469
TOTAL.....	<u>618</u>	<u>764</u>

KEARNY STREET  
BETWEEN GEARY AND CALIFORNIA STREETS

	EAST SIDE	WEST SIDE
Geary and Post Sts.		
North Bound.....	7,655	
South Bound.....	8,226	
TOTAL.....	<u>15,881</u>	
Geary St. and Maiden Lane		
North Bound.....		10,537
South Bound.....		10,377
TOTAL.....		<u>20,914</u>
Maiden Lane and Post St.		
North Bound.....		9,619
South Bound.....		10,127
TOTAL.....		<u>19,746</u>
Post and Sutter Sts.		
North Bound.....	7,818	8,907
South Bound.....	8,617	9,481
TOTAL.....	<u>16,435</u>	<u>18,388</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
Sutter and Bush Sts.		
North Bound.....	7,622	5,877
South Bound.....	7,818	5,909
TOTAL.....	<u>15,440</u>	<u>11,786</u>
Bush and Pine Sts.		
North Bound.....	5,311	3,664
South Bound.....	5,366	3,687
TOTAL.....	<u>10,677</u>	<u>7,351</u>
Pine and California Sts.		
North Bound.....	4,038	3,217
South Bound.....	4,392	3,311
TOTAL.....	<u>8,430</u>	<u>6,528</u>

MARKET STREET  
BETWEEN THE EMBARCADERO AND GOUGH STREET

	NORTH SIDE	SOUTH SIDE
Embarcadero and Steuart St.		
East Bound.....		7,601
West Bound.....		7,139
TOTAL.....		<u>14,740</u>
Steuart and Spear Sts.		
East Bound.....		10,744
West Bound.....		9,538
TOTAL.....		<u>20,282</u>
Embarcadero and Drumm St.		
East Bound.....	9,872	
West Bound.....	10,676	
TOTAL.....	<u>20,548</u>	
Spear and Main Sts.		
East Bound.....		5,204
West Bound.....		4,892
TOTAL.....		<u>10,096</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Drumm and Davis Sts.		
East Bound.....	8,007	
West Bound.....	8,201	
TOTAL.....	<u>16,208</u>	
Main and Beale Sts.		
East Bound.....		6,555
West Bound.....		6,907
TOTAL.....		<u>13,462</u>
Davis and Front Sts.		
East Bound.....	6,294	
West Bound.....	7,148	
TOTAL.....	<u>13,442</u>	
Beale and Fremont Sts.		
East Bound.....		4,994
West Bound.....		4,366
TOTAL.....		<u>9,360</u>
At Front St.		
East Bound.....	7,031	
West Bound.....	8,048	
TOTAL.....	<u>15,079</u>	
Fremont and First Sts.		
East Bound.....		6,263
West Bound.....		3,750
TOTAL.....		<u>10,013</u>
Battery and Sansome Sts,		
East Bound.....	7,057	
West Bound.....	8,025	
TOTAL.....	<u>15,082</u>	
First and Second Sts.		
East Bound.....		7,162
West Bound.....		6,045
TOTAL.....		<u>13,207</u>



## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Sansome and Montgomery Sts.		
East Bound.....	9,882	
West Bound.....	11,181	
TOTAL.....	<u>21,063</u>	
Second and New Montgomery Sts.		
East Bound.....		9,432
West Bound.....		9,069
TOTAL.....		<u>18,501</u>
New Montgomery and Third Sts.		
East Bound.....		10,050
West Bound.....		10,460
TOTAL.....		<u>20,510</u>
Montgomery and Kearny Sts.		
East Bound.....	11,751	
West Bound.....	14,079	
TOTAL.....	<u>25,830</u>	
Kearny St. and Grant Ave.		
East Bound.....	11,091	
West Bound.....	15,186	
TOTAL.....	<u>26,277</u>	
Third and Fourth Sts.		
East Bound.....		24,271
West Bound.....		17,463
TOTAL.....		<u>41,734</u>
Grant Ave. and Stockton St.		
East Bound.....	13,674	
West Bound.....	19,685	
TOTAL.....	<u>33,359</u>	
Stockton and Powell Sts.		
East Bound.....	15,822	
West Bound.....	19,783	
TOTAL.....	<u>35,605</u>	

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Fourth and Fifth Sts.		
East Bound.....		33,076
West Bound.....		26,488
TOTAL.....		<u>59,564</u>
Fifth and Sixth Sts.		
East Bound.....		19,619
West Bound.....		22,090
TOTAL.....		<u>41,709</u>
Powell and Mason Sts.		
East Bound.....	16,061	
West Bound.....	18,041	
TOTAL.....	<u>34,102</u>	
Mason and Taylor Sts.		
East Bound.....	13,150	
West Bound.....	14,413	
TOTAL.....	<u>27,563</u>	
Taylor and Jones Sts.		
East Bound.....	10,889	
West Bound.....	11,161	
TOTAL.....	<u>22,050</u>	
Sixth and Seventh Sts.		
East Bound.....		18,390
West Bound.....		16,126
TOTAL.....		<u>34,516</u>
Jones and Leavenworth Sts.		
East Bound.....	7,136	
West Bound.....	6,453	
TOTAL.....	<u>13,589</u>	
Leavenworth and Hyde Sts.		
East Bound.....	5,425	
West Bound.....	4,089	
TOTAL.....	<u>9,514</u>	

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Seventh and Eighth Sts.		
East Bound.....		7,181
West Bound.....		8,057
TOTAL.....		<u>15,238</u>
Hyde and Larkin Sts.		
East Bound.....	4,377	
West Bound.....	3,432	
TOTAL.....	<u>7,809</u>	
Eighth and Ninth Sts.		
East Bound.....		2,426
West Bound.....		1,768
TOTAL.....		<u>4,194</u>
Larkin and Polk Sts.		
East Bound.....	2,968	
West Bound.....	3,455	
TOTAL.....	<u>6,423</u>	
Ninth and Tenth Sts.		
East Bound.....		1,806
West Bound.....		1,172
TOTAL.....		<u>2,978</u>
Tenth and Eleventh Sts.		
East Bound.....		1,651
West Bound.....		1,304
TOTAL.....		<u>2,955</u>
Polk St. and Van Ness Ave.		
East Bound.....	2,019	
West Bound.....	1,754	
TOTAL.....	<u>3,773</u>	
Van Ness Ave. South and Eleventh St.		
East Bound.....		2,676
West Bound.....		1,693
TOTAL.....		<u>4,369</u>
Van Ness Ave. and Franklin St.		
East Bound.....	1,434	
West Bound.....	1,172	
TOTAL.....	<u>2,606</u>	

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Van Ness Ave. South and Twelfth St.		
East Bound.....		1,196
West Bound.....		698
TOTAL.....		<u>1,894</u>
Twelfth and Brady Sts.		
East Bound.....		1,063
West Bound.....		1,003
TOTAL.....		<u>2,066</u>
Franklin and Gough Sts.		
East Bound.....	1,086	
West Bound.....	1,136	
TOTAL.....	<u>2,222</u>	

MASON STREET  
BETWEEN TURK AND POST STREETS

	EAST SIDE	WEST SIDE
Turk and Eddy Sts.		
North Bound.....	3,358	3,062
South Bound.....	3,226	3,462
TOTAL.....	<u>6,584</u>	<u>6,524</u>
Eddy and Ellis Sts.		
North Bound.....	3,212	2,205
South Bound.....	3,044	2,966
TOTAL.....	<u>6,256</u>	<u>5,171</u>
Ellis and O'Farrell Sts.		
North Bound.....	2,860	2,220
South Bound.....	2,984	2,932
TOTAL.....	<u>5,844</u>	<u>5,152</u>
O'Farrell and Geary Sts.		
North Bound.....	3,230	2,046
South Bound.....	3,101	2,811
TOTAL.....	<u>6,331</u>	<u>4,857</u>
Geary and Post Sts.		
North Bound.....	2,483	1,882
South Bound.....	2,632	2,350
TOTAL.....	<u>5,115</u>	<u>4,232</u>

## APPENDIX II

MISSION STREET  
BETWEEN FREMONT STREET AND SIXTH STREET

	NORTH SIDE	SOUTH SIDE
Fremont and First Sts.		
East Bound.....	1,738	822
West Bound.....	1,717	691
TOTAL.....	<u>3,455</u>	<u>1,513</u>
First and Second Sts.		
East Bound.....	2,029	1,195
West Bound.....	2,214	958
TOTAL.....	<u>4,243</u>	<u>2,153</u>
Second and New Montgomery Sts.		
East Bound.....	2,102	1,880
West Bound.....	2,180	1,769
TOTAL.....	<u>4,282</u>	<u>3,649</u>
New Montgomery and Third Sts.		
East Bound.....	2,212	1,943
West Bound.....	2,442	1,802
TOTAL.....	<u>4,654</u>	<u>3,745</u>
Third and Fourth Sts.		
East Bound.....	2,942	1,764
West Bound.....	2,864	1,657
TOTAL.....	<u>5,806</u>	<u>3,421</u>
Fourth and Fifth Sts.		
East Bound.....	2,988	2,122
West Bound.....	3,513	2,254
TOTAL.....	<u>6,501</u>	<u>4,376</u>
Fifth and Sixth Sts.		
East Bound.....	2,070	1,701
West Bound.....	2,105	1,422
TOTAL.....	<u>4,175</u>	<u>3,123</u>

MISSION STREET  
BETWEEN FIFTEENTH STREET AND BROOKS STREET

	EAST SIDE	WEST SIDE
*Fifteenth and Sixteenth Sts.		
North Bound.....	691	1,031
South Bound.....	703	969
TOTAL.....	<u>1,394</u>	<u>2,000</u>



## APPENDIX II

	EAST SIDE	WEST SIDE
*Sixteenth and Seventeenth Sts.		
North Bound.....	1,151	2,274
South Bound.....	940	2,700
TOTAL.....	<u>2,091</u>	<u>4,974</u>
*Seventeenth and Eighteenth Sts.		
North Bound.....	970	1,900
South Bound.....	787	2,607
TOTAL.....	<u>1,757</u>	<u>4,507</u>
*Eighteenth and Nineteenth Sts.		
North Bound.....	1,250	1,843
South Bound.....	1,058	1,651
TOTAL.....	<u>2,308</u>	<u>4,494</u>
*Nineteenth and Twentieth Sts.		
North Bound.....	1,889	2,044
South Bound.....	1,756	2,848
TOTAL.....	<u>3,645</u>	<u>4,892</u>
*Twentieth and Twenty-first Sts.		
North Bound.....	3,001	2,583
South Bound.....	2,740	3,070
TOTAL.....	<u>5,741</u>	<u>5,653</u>
*Twenty-first and Twenty-second Sts.		
North Bound.....	2,709	3,730
South Bound.....	2,481	4,492
TOTAL.....	<u>5,190</u>	<u>8,222</u>
*Twenty-second and Twenty-third Sts.		
North Bound.....	3,328	4,649
South Bound.....	2,779	5,658
TOTAL.....	<u>6,107</u>	<u>10,307</u>
*Twenty-third and Twenty-fourth Sts.		
North Bound.....	1,953	2,670
South Bound.....	1,769	3,047
TOTAL.....	<u>3,722</u>	<u>5,717</u>
*Twenty-fourth and Twenty-fifth Sts.		
North Bound.....	1,194	1,367
South Bound.....	919	1,652
TOTAL.....	<u>2,113</u>	<u>3,019</u>
*Twenty-fifth and Twenty-sixth Sts.		
North Bound.....	652	848
South Bound.....	564	962
TOTAL.....	<u>1,216</u>	<u>1,810</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
*Twenty-sixth and Army Sts.		
North Bound.....	577	801
South Bound.....	479	875
TOTAL.....	<u>1,056</u>	<u>1,676</u>
*Army and Valencia Sts.		
North Bound.....		536
South Bound.....		668
TOTAL.....		<u>1,204</u>
*Army St. and Precita Ave.		
North Bound.....	387	
South Bound.....	335	
TOTAL.....	<u>722</u>	
*Precita and Powers Aves.		
North Bound.....	392	
South Bound.....	348	
TOTAL.....	<u>740</u>	
*Powers and Fair Aves.		
North Bound.....	962	
South Bound.....	952	
TOTAL.....	<u>1,914</u>	
*Fair Ave. and Virginia St.		
North Bound.....	493	
South Bound.....	321	
TOTAL.....	<u>814</u>	
*Valencia and Twenty-ninth Sts.		
North Bound.....		726
South Bound.....		885
TOTAL.....		<u>1,611</u>
*Twenty-ninth and Thirtieth Sts.		
North Bound.....		962
South Bound.....		1,257
TOTAL.....		<u>2,219</u>
*Virginia and Godeus Sts.		
North Bound.....	344	
South Bound.....	255	
TOTAL.....	<u>599</u>	
*Godeus St. and Eugenia Ave.		
North Bound.....	381	
South Bound.....	268	
TOTAL.....	<u>649</u>	

## APPENDIX II

	EAST SIDE	WEST SIDE
*Thirtieth and Kingston Sts.		
North Bound.....		538
South Bound.....		626
TOTAL.....		<u>1,164</u>
*Eugenia Ave. and Kingston St.		
North Bound.....	360	
South Bound.....	237	
TOTAL.....	<u>597</u>	
*Kingston St. and Cortland Ave.		
North Bound.....	383	
South Bound.....	282	
TOTAL.....	<u>665</u>	
*Kingston and Brooks Sts.		
North Bound.....		487
South Bound.....		518
TOTAL.....		<u>1,005</u>

## MISSION STREET

## BETWEEN SILVER AVENUE AND ONONDAGA AVENUE

	EAST SIDE	WEST SIDE
*Silver and Avalon Aves.		
North Bound.....	230	
South Bound.....	134	
TOTAL.....	<u>364</u>	
*Tingley and Theresa Sts.		
North Bound.....		382
South Bound.....		288
TOTAL.....		<u>670</u>
*Theresa and Cotter Sts.		
North Bound.....		460
South Bound.....		378
TOTAL.....		<u>838</u>
*Avalon and Excelsior Aves.		
North Bound.....	253	
South Bound.....	221	
TOTAL.....	<u>474</u>	

## APPENDIX II

	EAST SIDE	WEST SIDE
*Cotter and Francis Sts.		
North Bound.....		647
South Bound.....		475
TOTAL.....		<u>1,122</u>
*Francis St. and Santa Rosa Ave.		
North Bound.....		1,042
South Bound.....		1,134
TOTAL.....		<u>2,176</u>
*Santa Rosa Ave. and Harrington St.		
North Bound.....		1,252
South Bound.....		1,377
TOTAL.....		<u>2,629</u>
*Excelsior and Brazil Aves.		
North Bound.....	647	
South Bound.....	496	
TOTAL.....	<u>1,143</u>	
*Harrington and Norton Sts.		
North Bound.....		638
South Bound.....		1,085
TOTAL.....		<u>1,723</u>
*Brazil and Persia Aves.		
North Bound.....	787	
South Bound.....	718	
TOTAL.....	<u>1,505</u>	
*Norton St. and Ocean Ave.		
North Bound.....		754
South Bound.....		790
TOTAL.....		<u>1,544</u>
*Ocean Ave. and Ruth St.		
North Bound.....		261
South Bound.....		278
TOTAL.....		<u>539</u>
*Persia and Russia Aves.		
North Bound.....	354	
South Bound.....	329	
TOTAL.....	<u>683</u>	
*Ruth and Leo Sts.		
North Bound.....		381
South Bound.....		351
TOTAL.....		<u>732</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
*Leo St. and Onondaga Ave.		
North Bound.....		310
South Bound.....		295
TOTAL.....		<u>605</u>

MONTGOMERY STREET  
BETWEEN POST AND CLAY STREETS

	EAST SIDE	WEST SIDE
Post and Sutter Sts.		
North Bound.....	7,074	11,035
South Bound.....	8,604	9,575
TOTAL.....	<u>15,678</u>	<u>10,610</u>
Sutter and Bush Sts.		
North Bound.....	8,090	13,395
South Bound.....	10,208	13,289
TOTAL.....	<u>18,298</u>	<u>26,684</u>
Bush and Pine Sts.		
North Bound.....	10,370	11,178
South Bound.....	9,989	14,107
TOTAL.....	<u>20,359</u>	<u>25,285</u>
Pine and California Sts.		
North Bound.....	6,874	10,780
South Bound.....	6,669	8,024
TOTAL.....	<u>13,543</u>	<u>18,804</u>
California and Sacramento Sts.		
North Bound.....	3,801	4,717
South Bound.....	3,574	4,947
TOTAL.....	<u>7,375</u>	<u>9,664</u>
Sacramento and Clay Sts.		
North Bound.....	2,567	2,071
South Bound.....	2,296	2,660
TOTAL.....	<u>4,863</u>	<u>4,731</u>

NEW MONTGOMERY STREET  
BETWEEN MISSION AND MARKET STREETS

	EAST SIDE	WEST SIDE
Mission and Market Sts.		
North Bound.....	3,590	5,801
South Bound.....	3,467	7,051
TOTAL.....	<u>7,057</u>	<u>12,852</u>



## APPENDIX II

O'FARRELL STREET  
BETWEEN GRANT AVENUE AND TAYLOR STREET

	NORTH SIDE	SOUTH SIDE
Grant Ave. and Stockton St.		
East Bound.....	3,866	3,762
West Bound.....	3,530	2,861
TOTAL.....	<u>7,396</u>	<u>6,623</u>
Stockton and Powell Sts.		
East Bound.....	3,528	2,800
West Bound.....	3,824	2,294
TOTAL.....	<u>7,352</u>	<u>5,094</u>
Powell and Mason Sts.		
East Bound.....	3,432	2,015
West Bound.....	2,904	1,780
TOTAL.....	<u>6,336</u>	<u>3,795</u>
Mason and Taylor Sts.		
East Bound.....	3,047	1,698
West Bound.....	2,519	1,394
TOTAL.....	<u>5,566</u>	<u>3,092</u>

PINE STREET  
BETWEEN DAVIS AND KEARNY STREETS

	NORTH SIDE	SOUTH SIDE
Davis and Front Sts.		
East Bound.....	1,820	904
West Bound.....	2,291	470
TOTAL.....	<u>4,111</u>	<u>1,374</u>
Front and Battery Sts.		
East Bound.....	1,589	1,016
West Bound.....	1,885	488
TOTAL.....	<u>3,474</u>	<u>1,504</u>
Battery and Sansome Sts.		
East Bound.....	2,598	1,673
West Bound.....	2,560	1,091
TOTAL.....	<u>5,158</u>	<u>2,764</u>
Sansome and Montgomery Sts.		
East Bound.....		3,375
West Bound.....		1,788
TOTAL.....		<u>5,163</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Sansome and Leidesdorff Sts.		
East Bound.....	4,055	
West Bound.....	4,755	
TOTAL.....	<u>8,810</u>	
Leidesdorff and Montgomery Sts.		
East Bound.....	4,193	
West Bound.....	4,304	
TOTAL.....	<u>8,497</u>	
Belden and Montgomery Sts.		
East Bound.....		2,633
West Bound.....		2,806
TOTAL.....		<u>5,439</u>
Montgomery and Kearny Sts.		
East Bound.....	2,344	
West Bound.....	1,977	
TOTAL.....	<u>4,321</u>	
Belden and Kearny Sts.		
East Bound.....		2,009
West Bound.....		1,571
TOTAL.....		<u>3,580</u>

POST STREET  
BETWEEN MONTGOMERY AND TAYLOR STREETS

	NORTH SIDE	SOUTH SIDE
Montgomery St. and Lick Place		
East Bound.....	5,257	6,826
West Bound.....	6,760	6,473
TOTAL.....	<u>12,017</u>	<u>13,299</u>
Lick Place and Kearny St.		
East Bound.....	5,834	5,847
West Bound.....	7,763	4,972
TOTAL.....	<u>13,597</u>	<u>10,819</u>
Montgomery and Kearny Sts.		
East Bound.....		4,703
West Bound.....		4,182
TOTAL.....		<u>8,885</u>

## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Kearny St. and Grant Ave.		
East Bound.....	6,447	8,564
West Bound.....	6,872	8,122
TOTAL.....	<u>13,319</u>	<u>16,686</u>
Grant Ave. and Stockton St.		
East Bound.....	6,082	5,371
West Bound.....	5,541	5,155
TOTAL.....	<u>11,623</u>	<u>10,526</u>
Stockton and Powell Sts.		
East Bound.....	6,581	2,032
West Bound.....	5,820	1,849
TOTAL.....	<u>12,401</u>	<u>3,881</u>
Powell and Mason Sts.		
East Bound.....	4,604	2,822
West Bound.....	4,327	2,766
TOTAL.....	<u>8,931</u>	<u>5,588</u>
Mason and Taylor Sts.		
East Bound.....	1,880	1,909
West Bound.....	1,538	1,613
TOTAL.....	<u>3,418</u>	<u>3,522</u>

POWELL STREET  
BETWEEN EDDY AND SUTTER STREETS

	EAST SIDE	WEST SIDE
Eddy and Ellis Sts.		
North Bound.....	6,194	11,343
South Bound.....	6,682	14,408
TOTAL.....	<u>12,876</u>	<u>25,751</u>
Ellis and O'Farrell Sts.		
North Bound.....	6,731	9,429
South Bound.....	6,901	11,990
TOTAL.....	<u>13,632</u>	<u>21,419</u>
O'Farrell and Geary Sts.		
North Bound.....	5,922	8,351
South Bound.....	6,023	12,046
TOTAL.....	<u>11,945</u>	<u>20,397</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
Geary and Post Sts.		
North Bound.....	2,937	6,735
South Bound.....	3,791	8,479
TOTAL.....	<u>6,728</u>	<u>15,214</u>
Post and Sutter Sts.		
North Bound.....	5,145	3,647
South Bound.....	5,950	4,930
TOTAL.....	<u>11,095</u>	<u>8,577</u>

SANSOME STREET  
BETWEEN SUTTER AND PINE STREETS

	EAST SIDE	WEST SIDE
Sutter and Bush Sts.		
North Bound.....	2,356	7,833
South Bound.....	3,284	6,114
TOTAL.....	<u>5,640</u>	<u>13,947</u>
Bush and Pine Sts.		
North Bound.....	3,512	5,427
South Bound.....	4,325	5,191
TOTAL.....	<u>7,837</u>	<u>10,618</u>

SECOND STREET  
BETWEEN MISSION AND MARKET STREETS

	EAST SIDE	WEST SIDE
Mission and Market Sts.		
North Bound.....	3,958	2,646
South Bound.....	3,524	3,407
TOTAL.....	<u>7,482</u>	<u>6,053</u>

SIXTH STREET  
BETWEEN MISSION AND MARKET STREETS

	EAST SIDE	WEST SIDE
Mission and Market Sts.		
North Bound.....	4,269	4,067
South Bound.....	4,107	4,049
TOTAL.....	<u>8,376</u>	<u>8,116</u>

## APPENDIX II

STOCKTON STREET  
BETWEEN ELLIS AND SUTTER STREETS

	EAST SIDE	WEST SIDE
Ellis and O'Farrell Sts.		
North Bound.....	6,591	11,157
South Bound.....	7,847	11,160
TOTAL.....	<u>14,438</u>	<u>22,317</u>
O'Farrell and Geary Sts.		
North Bound.....	6,955	9,981
South Bound.....	7,495	10,807
TOTAL.....	<u>14,450</u>	<u>20,788</u>
Geary and Post Sts.		
North Bound.....		3,946
South Bound.....		4,747
TOTAL.....		<u>8,693</u>
Geary St. and Maiden Lane		
North Bound.....	6,017	
South Bound.....	6,443	
TOTAL.....	<u>12,460</u>	
Maiden Lane and Post St.		
North Bound.....	6,201	
South Bound.....	6,352	
TOTAL.....	<u>12,553</u>	
Post and Sutter Sts.		
North Bound.....	3,783	3,526
South Bound.....	3,440	4,907
TOTAL.....	<u>7,223</u>	<u>8,433</u>

SUTTER STREET  
BETWEEN SANSOME AND MASON STREETS

	NORTH SIDE	SOUTH SIDE
Sansome and Montgomery Sts.		
East Bound.....	3,918	2,802
West Bound.....	4,413	2,298
TOTAL.....	<u>8,331</u>	<u>5,100</u>
Montgomery St. and Lick Place		
East Bound.....		6,826
West Bound.....		6,473
TOTAL.....		<u>13,299</u>



## APPENDIX II

	NORTH SIDE	SOUTH SIDE
Lick Place and Kearny St.		
East Bound.....		5,847
West Bound.....		4,972
TOTAL.....		<u>10,819</u>
Montgomery and Kearny Sts.		
East Bound.....	6,046	
West Bound.....	7,351	
TOTAL.....	<u>13,397</u>	
Kearny St. and Grant Ave.		
East Bound.....	4,786	7,091
West Bound.....	5,308	7,265
TOTAL.....	<u>10,094</u>	<u>14,356</u>
Grant Ave. and Stockton St.		
East Bound.....	5,471	3,911
West Bound.....	4,314	3,595
TOTAL.....	<u>9,785</u>	<u>7,506</u>
Stockton and Powell Sts.		
East Bound.....	9,033	5,239
West Bound.....	6,750	4,830
TOTAL.....	<u>15,783</u>	<u>10,069</u>
Powell and Mason Sts.		
East Bound.....	3,488	2,754
West Bound.....	2,587	2,787
TOTAL.....	<u>6,075</u>	<u>5,541</u>

## TAYLOR STREET

## BETWEEN GOLDEN GATE AVENUE AND POST STREET

	EAST SIDE	WEST SIDE
Golden Gate Ave. and Turk St.		
North Bound.....	1,956	3,409
South Bound.....	1,864	3,965
TOTAL.....	<u>3,820</u>	<u>7,374</u>
Turk and Eddy Sts.		
North Bound.....	2,094	2,343
South Bound.....	1,959	2,816
TOTAL.....	<u>4,053</u>	<u>5,159</u>

## APPENDIX II

	EAST SIDE	WEST SIDE
Eddy and Ellis Sts.		
North Bound.....	1,835	1,641
South Bound.....	1,616	2,001
TOTAL.....	<u>3,451</u>	<u>3,642</u>
Ellis and O'Farrell Sts.		
North Bound.....	1,395	1,340
South Bound.....	1,212	1,813
TOTAL.....	<u>2,607</u>	<u>3,153</u>
O'Farrell and Geary Sts.		
North Bound.....	1,014	1,290
South Bound.....	1,167	1,765
TOTAL.....	<u>2,181</u>	<u>3,055</u>
Geary and Post Sts.		
North Bound.....	911	976
South Bound.....	860	1,137
TOTAL.....	<u>1,771</u>	<u>2,113</u>

THIRD STREET  
BETWEEN MARKET AND HOWARD STREETS

	EAST SIDE	WEST SIDE
Market and Mission Sts.		
North Bound.....	7,474	8,765
South Bound.....	5,906	9,626
TOTAL.....	<u>13,380</u>	<u>18,391</u>
Mission and Howard Sts.		
North Bound.....	3,816	8,732
South Bound.....	4,231	7,238
TOTAL.....	<u>8,047</u>	<u>15,970</u>

TURK STREET  
BETWEEN MASON AND TAYLOR STREETS

	NORTH SIDE	SOUTH SIDE
Mason and Taylor Sts.		
East Bound.....	3,807	1,722
West Bound.....	3,593	1,550
TOTAL.....	<u>7,400</u>	<u>3,272</u>

## APPENDIX II

SIDEWALK OBSTRUCTIONS  
IN THE CENTRAL BUSINESS DISTRICT  
NORTH OF MARKET STREET

*(Observations taken on Market Street and streets running north and south only)*

Character of Obstruction	Number of Obstructions		Per Cent Sidewalk Width Obstructed	
	Total Except Market St.	Market Street Only	Average Except Market St.	Market Street Only
Trolley and Light Poles.....	259	75	23	18
Trash Boxes .....	43	41	24	16
Mail Boxes .....	42	38	25	20
Parking Signs .....	168	39	10	10
Fire Plugs .....	76	48	26	16
Street Markers .....	6	8	14	9
News Stands .....	63	39	25	20
Flower Stands .....	7	....	40	....
Shoe Shine Stands.....	9	....	20	....
Fire and Police Telephones.....	26	17	24	14
Signs .....	33	25	25	20
Signals .....	46	39	18	12
Barber Poles .....	19	3	15	10
Bicycle Stands .....	8	2	33	20
Elevators .....	237	71	50	36
Street Clocks .....	1	3	33	18
Scales .....	2	....	20	....

APPENDIX III

CORDON COUNT

*of the*

CENTRAL BUSINESS

DISTRICT

## APPENDIX III

## CORDON COUNT OF THE CENTRAL BUSINESS DISTRICT

ACCUMULATION OF PERSONS BY ALL MODES  
OF TRANSPORTATION

<i>For Half-Hour Period Ending</i>	<i>Entering</i>	<i>Leaving</i>	<i>Accumulation</i>
7:30 A. M.....	14077	9960	4117
8:00 A. M.....	26173	15692	14598
8:30 A. M.....	34603	17205	31996
9:00 A. M.....	37009	16471	52534
9:30 A. M.....	24829	13113	64250
10:00 A. M.....	20244	13612	70882
10:30 A. M.....	20118	14796	76204
11:00 A. M.....	20556	16043	80717
11:30 A. M.....	20407	16124	85000
12:00 Noon.....	22733	18098	89635
12:30 P. M.....	25826	21757	93704
1:00 P. M.....	22241	22013	93932
1:30 P. M.....	21330	19706	95556
2:00 P. M.....	20744	19292	97008
2:30 P. M.....	20525	20049	97484
3:00 P. M.....	19170	19598	97056
3:30 P. M.....	19542	21190	95408
4:00 P. M.....	20304	21988	93724
4:30 P. M.....	20139	24379	89484
5:00 P. M.....	26908	35281	81111
5:30 P. M.....	30968	51421	60658
6:00 P. M.....	18972	40435	39195
6:30 P. M.....	14981	24451	29725
7:00 P. M.....	12444	16601	25568
7:30 P. M.....	12893	14731	23730
8:00 P. M.....	14465	13931	24264
8:30 P. M.....	13975	13776	24461
9:00 P. M.....	10435	11734	23169
9:30 P. M.....	9526	10907	21781
10:00 P. M.....	8129	10285	19625
10:30 P. M.....	7566	9406	17785
11:00 P. M.....	7841	9423	16203
TOTAL .....	619671	603468	



## APPENDIX III

CORDON COUNT OF THE CENTRAL BUSINESS DISTRICT  
ACCUMULATION OF PASSENGER AUTOMOBILES  
AND TRUCKS

<i>For Half-Hour Period Ending</i>	<i>Entering</i>	<i>Leaving</i>	<i>Accumulation</i>
7:30 A. M.....	2485	1620	865
8:00 A. M.....	4093	2813	2145
8:30 A. M.....	5213	3590	3768
9:00 A. M.....	5729	4000	5497
9:30 A. M.....	5060	4252	6305
10:00 A. M.....	4886	4386	6805
10:30 A. M.....	4872	4364	7313
11:00 A. M.....	4838	4308	7843
11:30 A. M.....	4676	4450	8069
12:00 Noon .....	4476	4393	8152
12:30 P. M.....	4227	4259	8120
1:00 P. M.....	3725	3379	8466
1:30 P. M.....	4101	3907	8660
2:00 P. M.....	4538	4203	8995
2:30 P. M.....	4733	4599	9129
3:00 P. M.....	4655	4311	9473
3:30 P. M.....	4593	4524	9542
4:00 P. M.....	4748	4580	9710
4:30 P. M.....	4798	4573	9935
5:00 P. M.....	5285	5490	9730
5:30 P. M.....	5639	6689	8680
6:00 P. M.....	4287	5654	7313
6:30 P. M.....	3464	4371	6406
7:00 P. M.....	2750	3087	6069
7:30 P. M.....	2960	3022	6007
8:00 P. M.....	3326	2961	6372
8:30 P. M.....	3453	3078	6747
9:00 P. M.....	2572	2570	6749
9:30 P. M.....	2245	2330	6664
10:00 P. M.....	2009	2244	6429
10:30 P. M.....	2017	2073	6373
11:00 P. M.....	1867	2084	6156
TOTAL .....	128320	122164	

## APPENDIX III

CORDON COUNT OF THE CENTRAL BUSINESS DISTRICT  
SUMMARY OF PERSONS AND VEHICLES INBOUND AND OUTBOUND  
VEHICLES — INBOUND

For Half-Hour Period Ending	PASSENGER CARRIERS				Commercial		Total All Types of Vehicles
	Mass Transportation Street Cars	Buses	Total Carriers	Individual Carriers Autos and Cabs	Total Passenger Vehicles	Trucks	
7:30 A.M.....	276	2	278	1892	2170	593	2763
8:00 A.M.....	363	3	366	3362	3728	731	4459
8:30 A.M.....	432	13	445	4183	4628	1030	5658
9:00 A.M.....	433	5	438	4740	5178	989	6167
9:30 A.M.....	362	6	368	3864	4232	1196	5428
10:00 A.M.....	260	5	265	3701	3966	1185	5151
10:30 A.M.....	275	5	280	3554	3834	1318	5152
11:00 A.M.....	258	7	265	3648	3913	1190	5103
11:30 A.M.....	269	3	272	3456	3728	1220	4948
12:00 Noon ....	281	5	286	3503	3789	973	4762
12:30 P.M.....	283	4	287	3624	3911	603	4514
1:00 P.M.....	275	3	278	3172	3450	553	4003
1:30 P.M.....	281	4	285	3343	3628	758	4386
2:00 P.M.....	278	2	280	3628	3908	910	4818
2:30 P.M.....	299	12	311	3758	4069	975	5044
3:00 P.M.....	303	6	309	3666	3975	988	4963
3:30 P.M.....	320	3	323	3609	3932	984	4916
4:00 P.M.....	316	2	318	3714	4032	1034	5066
4:30 P.M.....	371	5	376	3897	4273	901	5174
5:00 P.M.....	476	3	479	4433	4912	852	5764
5:30 P.M.....	460	4	464	5056	5520	583	6103
6:00 P.M.....	388	4	392	3922	4314	365	4679
6:30 P.M.....	283	7	290	3188	3478	276	3754
7:00 P.M.....	231	16	247	2587	2834	163	2997
7:30 P.M.....	223	5	228	2793	3021	167	3188
8:00 P.M.....	209	3	212	3229	3441	97	3538
8:30 P.M.....	203	3	206	3310	3516	143	3659
9:00 P.M.....	198	2	200	2495	2695	77	2772
9:30 P.M.....	195	4	197	2170	2367	75	2442
10:00 P.M.....	196	4	200	1924	2124	85	2209
10:30 P.M.....	179	1	180	1934	2114	83	2197
11:00 P.M.....	183	4	187	1808	1995	59	2054
TOTALS .....	9357	155	9512	107163	116675	21156	137831

## APPENDIX III

CORDON COUNT OF THE CENTRAL BUSINESS DISTRICT  
SUMMARY OF PERSONS AND VEHICLES INBOUND AND OUTBOUND

## PASSENGERS — INBOUND

For Half-Hour Period Ending	Street Cars	Mass Transportation Buses	Total Passengers	Individual Autos and Cabs	Commer- cial Trucks	Total All Types of Passengers	Pedestrians	Total Persons
7:30 A.M.....	7801	19	7820	2769	733	11322	2755	14077
8:00 A.M.....	14436	47	14482	5527	925	20935	5238	26173
8:30 A.M.....	18020	363	18383	6610	1308	26301	8302	34603
9:00 A.M.....	17807	73	17880	7173	1142	26195	10814	37009
9:30 A.M.....	10141	90	10231	5517	1454	17202	7627	24829
10:00 A.M.....	6866	83	6949	5194	1392	13535	6709	20244
10:30 A.M.....	6413	89	6502	5085	1538	13125	6993	20118
11:00 A.M.....	6677	150	6827	5208	1374	13409	7147	20556
11:30 A.M.....	6096	72	6168	4927	1391	12486	7921	20407
12:00 Noon ....	6341	102	6443	5106	1145	12694	10039	22733
12:30 P.M.....	6703	53	6756	5599	719	13074	12752	25826
1:00 P.M.....	5658	63	5721	5114	685	11520	10721	22241
1:30 P.M.....	5693	120	5813	5259	913	11985	9345	21330
2:00 P.M.....	5918	53	5971	5610	1091	12672	8072	20744
2:30 P.M.....	5950	130	6080	5748	1151	12679	7546	20525
3:00 P.M.....	5546	68	5614	5552	1177	12343	6827	19170
3:30 P.M.....	6197	37	6234	5527	1210	12971	6571	19542
4:00 P.M.....	6289	55	6344	5779	1191	13342	6990	20304
4:30 P.M.....	6590	78	6668	5807	1048	13523	6616	20139
5:00 P.M.....	9872	73	9945	6677	991	17613	9295	26908
5:30 P.M.....	11474	33	11507	8382	718	20607	10361	30968
6:00 P.M.....	6117	45	6162	6464	450	13076	5896	18972
6:30 P.M.....	4235	217	4452	5409	374	10235	4746	14981
7:00 P.M.....	2871	283	3154	4707	192	8053	4391	12444
7:30 P.M.....	2729	33	2762	5412	249	8423	4470	12893
8:00 P.M.....	2860	60	2920	6785	125	9830	4635	14465
8:30 P.M.....	2604	27	2631	6798	233	9662	4311	13973
9:00 P.M.....	1849	34	1883	5053	104	7040	3395	10435
9:30 P.M.....	1803	45	1848	4323	98	6269	3257	9526
10:00 P.M.....	1634	94	1728	3794	113	5635	2494	8129
10:30 P.M.....	1528	18	1546	3742	113	5401	2165	7566
11:00 P.M.....	1998	57	2054	3697	73	5825	2016	7841
TOTALS .....	206716	2764	209480	174354	25420	409254	210417	619671

## APPENDIX III

CORDON COUNT OF THE CENTRAL BUSINESS DISTRICT  
SUMMARY OF PERSONS AND VEHICLES INBOUND AND OUTBOUND

## VEHICLES — OUTBOUND

For Half-Hour Period Ending	PASSENGER CARRIERS				Total Passenger Vehicles	Commer- cial Trucks	Total All Types of Vehicles
	Street Cars	Buses	Mass Transportation Total Carriers	Individual Carriers Autos and Cabs			
7:30 A.M.....	261	7	268	1165	1433	455	1888
8:00 A.M.....	321	6	327	2196	2523	617	3140
8:30 A.M.....	412	15	427	2672	3099	918	4017
9:00 A.M.....	425	10	435	3033	3068	967	4435
9:30 A.M.....	383	8	391	3118	3509	1134	4643
10:00 A.M.....	291	9	300	3213	3513	1173	4686
10:30 A.M.....	269	10	279	3178	3457	1186	4643
11:00 A.M.....	260	8	268	3145	3413	1163	4576
11:30 A.M.....	255	10	265	3238	3503	1212	4715
12:00 Noon.....	283	9	292	3301	3593	1095	4688
12:30 P.M.....	271	7	278	3587	3865	672	4537
1:00 P.M.....	283	9	292	2882	3174	497	3671
1:30 P.M.....	280	11	291	3116	3407	791	4198
2:00 P.M.....	269	7	276	3317	3595	886	4479
2:30 P.M.....	295	7	302	3586	3888	1013	4901
3:00 P.M.....	301	13	314	3380	3694	932	4626
3:30 P.M.....	317	10	327	3474	3801	1050	4851
4:00 P.M.....	315	8	323	3640	3963	940	4903
4:30 P.M.....	338	11	349	3621	3970	952	4922
5:00 P.M.....	449	5	454	4704	5158	786	5944
5:30 P.M.....	471	13	484	6017	6501	672	7173
6:00 P.M.....	426	10	436	5257	5693	397	6090
6:30 P.M.....	298	10	308	4125	4433	246	4679
7:00 P.M.....	250	11	61	2947	3208	140	3348
7:30 P.M.....	220	7	227	2864	3091	158	3249
8:00 P.M.....	217	5	222	2858	3080	103	3183
8:30 P.M.....	215	4	219	2986	3205	92	3297
9:00 P.M.....	203	7	210	2475	2685	95	2780
9:30 P.M.....	193	5	198	2242	2440	85	2525
10:00 P.M.....	190	5	195	2155	2350	89	2439
10:30 P.M.....	183	4	187	2002	2189	71	2260
11:00 P.M.....	188	3	191	2009	2200	75	2275
TOTALS .....	9332	264	9596	101503	111099	20662	131761

## APPENDIX III

CORDON COUNT OF THE CENTRAL BUSINESS DISTRICT  
SUMMARY OF PERSONS AND VEHICLES INBOUND AND OUTBOUND

## PASSENGERS — OUTBOUND

For Half-Hour Period Ending	<i>Mass Transportation</i>			Individual Autos and Cabs	Commer- cial Trucks	Total All Types of Passengers	Pedestrians	Total Persons
	Street Cars	Buses	Total Passengers					
7:30 A.M.....	5868	41	5909	1693	575	8177	1783	9960
8:00 A.M.....	7435	62	7497	2957	734	11188	4504	15692
8:30 A.M.....	7025	136	7161	3554	1118	11833	5372	17205
9:00 A.M.....	5672	36	5708	3845	1137	10690	5781	16471
9:30 A.M.....	3473	38	3511	3933	1340	8784	4329	13113
10:00 A.M.....	3413	78	3491	4180	1321	8992	4620	13612
10:30 A.M.....	3493	89	3582	4157	1374	9113	5683	14796
11:00 A.M.....	3924	94	4018	4226	1339	9583	6460	16043
11:30 A.M.....	4085	113	4198	4462	1400	10060	6064	16124
12:00 Noon ....	5177	149	5326	4638	1253	11217	6881	18098
12:30 P.M.....	5599	186	5785	5534	818	12137	9620	21757
1:00 P.M.....	5878	235	6113	4487	606	11206	10807	22013
1:30 P.M.....	5529	210	5739	4748	978	11465	8241	19706
2:00 P.M.....	5590	140	5730	5066	1069	11865	7427	19292
2:30 P.M.....	6504	73	6577	5380	1201	13158	6891	20049
3:00 P.M.....	6522	321	6843	5191	1095	13129	6469	19598
3:30 P.M.....	7735	121	7856	5275	1277	14408	6782	21190
4:00 P.M.....	8684	77	8761	5572	1098	15431	6557	21988
4:30 P.M.....	10138	141	10279	5684	1100	17063	7316	24379
5:00 P.M.....	17308	48	17356	7697	978	26031	9250	35281
5:30 P.M.....	26085	153	26238	10808	855	37901	13520	51421
6:00 P.M.....	21629	175	21804	9353	516	31673	8762	40435
6:30 P.M.....	10405	113	10518	7591	329	18438	6013	24451
7:00 P.M.....	5979	66	6045	5580	195	11820	4781	16601
7:30 P.M.....	4344	113	4457	5550	214	10221	4510	14731
8:00 P.M.....	3772	57	3829	5668	141	9638	4293	13931
8:30 P.M.....	3310	96	3406	6304	134	9844	3922	13776
9:00 P.M.....	2858	100	2958	5075	131	8164	3570	11734
9:30 P.M.....	2942	6	2948	4577	119	7644	3263	10907
10:00 P.M.....	2809	5	2814	4378	124	7316	2969	10285
10:30 P.M.....	2599	91	2690	3939	108	6737	2669	9406
11:00 P.M.....	2814	76	2890	4000	118	7008	2415	9423
TOTALS .....	218598	3439	222037	165102	24795	411934	191534	603468





APPENDIX IV  
SPEED *and* DELAY

## APPENDIX IV

## SUMMARY OF COMPUTED SPEED AND DELAY TESTS

	<i>Peak Hours</i>	<i>Off Peak Hours</i>
	4 P. M. to 6 P. M.	10 A. M. to 4 P. M.
Total Test Miles.....	717.310	761.940
Total Elapsed Time (Hours).....	44.643	43.741
Total Running Time (Hours).....	37.370	38.445
Total Delay Time (Hours).....	7.273	5.296
Total Number of Delays.....	2,115.000	1,861.000
Average Time per Delay (Min.).....	0.206	0.170
Average Time Delayed per Mile (Min.).....	0.608	0.417
Average Over-All Speed (Miles per Hour).....	16.100	17.350
Average Number Times Delayed per Mile.....	2.948	2.442

## APPENDIX IV

TIME ZONE DISTANCES AND SPEEDS FROM SAN FRANCISCO BAY BRIDGE APPROACH  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)						Over-All Speed (Miles per Hour)
		5	10	15	20	25	Hour	
SIXTH & TAYLOR STS.	Harrison (Off at 5th)	Distance (Miles).....	1.77	.....	.....	.....	.....	.....
		Speed (Miles per Hour).....	21.22	.....	.....	.....	.....	21.22
		Cumulative Distance (Miles).....	1.77	.....	.....	.....	.....	.....
BALBOA & TURK STS.	Harrison - 6th St. and Taylor (Off at 5th)	Distance (Miles).....	1.72	1.57	1.97	.....	.....	.....
		Speed (Miles per Hour).....	20.59	18.93	23.58	.....	.....	21.04
		Cumulative Distance (Miles).....	1.72	3.29	5.26	.....	.....	.....
ELLIS ST. (West)	Harrison - 6th St. and Taylor (Off at 5th)	Distance (Miles).....	1.72	.....	.....	.....	.....	.....
		Speed (Miles per Hour).....	20.68	.....	.....	.....	.....	20.68
		Cumulative Distance (Miles).....	1.72	.....	.....	.....	.....	.....
KEARNY ST.	Howard - 3rd Sts. (Off at 1st)	Distance (Miles).....	1.14	.....	.....	.....	.....	.....
		Speed (Miles per Hour).....	13.67	.....	.....	.....	.....	13.67
		Cumulative Distance (Miles).....	1.14	.....	.....	.....	.....	.....
MARINA BLVD. & BAY ST.	First St., Bush, Montgom- ery, Columbus, Cer- vantes (Off at 1st)	Distance (Miles).....	0.83	0.91	1.50	1.61	.....	.....
		Speed (Miles per Hour).....	9.93	10.98	18.01	19.29	.....	14.56
		Cumulative Distance (Miles).....	0.83	1.74	3.24	4.85	.....	.....
O'FARRELL ST. (East)	Harrison - 6th St. and Taylor (Off at 5th)	Distance (Miles).....	1.76	.....	.....	.....	.....	.....
		Speed (Miles per Hour).....	21.07	.....	.....	.....	.....	21.07
		Cumulative Distance (Miles).....	1.76	.....	.....	.....	.....	.....
GEARY ST. (East)	Harrison - 6th St and Taylor (Off at 5th)	Distance (Miles).....	1.66	.....	.....	.....	.....	.....
		Speed (Miles per Hour).....	19.91	.....	.....	.....	.....	19.91
		Cumulative Distance (Miles).....	1.66	.....	.....	.....	.....	.....

APPENDIX IV  
TIME ZONE DISTANCES AND SPEEDS FROM SAN FRANCISCO BAY BRIDGE APPROACH  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
GEARY BLVD. & POST ST.	Harrison - 6th St., Taylor and Presidio Ave. (Off at 5th)	.....	1.77	1.15	1.71	1.67	.....
		.....	21.23	13.77	20.57	20.07	18.91
		Cumulative Distance (Miles).....	1.77	2.92	4.63	6.30	.....
BATTERY ST.	First St.	.....	1.23	.....	.....	.....	.....
		Speed (Miles per Hour).....	14.76	.....	.....	.....	14.76
		Cumulative Distance (Miles).....	1.23	.....	.....	.....	.....
CALIFORNIA ST.	First and Battery (Off at 1st)	.....	0.90	1.00	1.35	1.74	.....
		Speed (Miles per Hour).....	10.83	11.97	16.25	20.77	14.96
		Cumulative Distance (Miles).....	0.90	1.90	3.25	4.99	.....
PACIFIC ST. & BROADWAY	First & Battery, Van Ness Ave. (Off at 1st)	.....	1.22	1.12	.....	.....	.....
		Speed (Miles per Hour).....	14.59	13.45	.....	.....	14.02
		Cumulative Distance (Miles).....	1.22	2.34	.....	.....	.....
LOMBARD ST.	First, Battery, Pacific, Van Ness Ave. (Off at 1st)	.....	1.22	1.12	1.43	.....	.....
		Speed (Miles per Hour).....	14.59	13.45	17.23	.....	15.09
		Cumulative Distance (Miles).....	1.22	2.34	3.77	.....	.....
GRANT AVE.	Howard, Third and Geary (Off at 1st)	.....	1.09	.....	.....	.....	.....
		Speed (Miles per Hour).....	13.13	.....	.....	.....	13.13
		Cumulative Distance (Miles).....	1.09	.....	.....	.....	.....
STOCKTON ST.	Howard, Third and Geary (Off at 1st)	.....	1.08	0.61	.....	.....	.....
		Speed (Miles per Hour).....	12.91	7.37	.....	.....	10.14
		Cumulative Distance (Miles).....	1.08	1.69	.....	.....	.....



APPENDIX IV  
TIME ZONE DISTANCES AND SPEEDS FROM SAN FRANCISCO BAY BRIDGE APPROACH  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-all Speed (Miles per Hour)
		5	10	15	20	25	
FULTON & McALLISTER STS.	Fifth, Market, Franklin (Off at 5th)	Distance (Miles).....	1.41	1.42	1.79	.....	.....
		Speed (Miles per Hour).....	16.86	17.15	21.43	.....	18.48
		Cumulative Distance (Miles).....	1.41	2.83	4.62	.....	.....
FELL ST., NORTH DRIVE G. G. PARK	Harrison, Tenth and Stanyan Sts. (Off at 5th)	Distance (Miles).....	1.71	1.49	.....	.....	.....
		Speed (Miles per Hour).....	20.55	17.90	.....	.....	19.23
		Cumulative Distance (Miles).....	1.71	3.20	.....	.....	.....
LINCOLN WAY	Harrison, Tenth, Fell and Golden Gate Park to Third Ave. (Off at 5th)	Distance (Miles).....	.....	.....	1.89	.....	.....
		Speed (Miles per Hour).....	.....	.....	22.60	.....	20.35
		Cumulative Distance (Miles).....	.....	.....	5.09	.....	.....
THIRD ST.	First and Howard (Off at 1st)	Distance (Miles).....	1.48	1.85	1.96	.....	.....
		Speed (Miles per Hour).....	17.72	22.26	23.50	.....	21.16
		Cumulative Distance (Miles).....	1.48	3.33	5.29	.....	.....
MISSION ST.	Fifth St. (Off at 5th)	Distance (Miles).....	1.60	1.05	.95	1.33	.....
		Speed (Miles per Hour).....	19.17	12.64	11.44	15.89	14.79
		Cumulative Distance (Miles).....	1.60	2.65	3.60	4.93	.....
HOWARD ST.	Fifth St. (Off at 5th)	Distance (Miles).....	1.61	1.45	.....	.....	.....
		Speed (Miles per Hour).....	19.34	17.39	.....	.....	18.37
		Cumulative Distance (Miles).....	1.61	3.06	.....	.....	.....
FOLSOM ST.	Fifth St. (Off at 5th)	Distance (Miles).....	1.86	.....	.....	.....	.....
		Speed (Miles per Hour).....	22.28	.....	.....	.....	22.28
		Cumulative Distance (Miles).....	1.86	.....	.....	.....	.....

APPENDIX IV  
TIME ZONE DISTANCES AND SPEEDS FROM SAN FRANCISCO BAY BRIDGE APPROACH  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
HARRISON ST. (Off at 5th)	Distance (Miles)	1.97	.....	.....	.....	.....	.....
	Speed (Miles per Hour)	23.58	.....	.....	.....	.....	23.58
	Cumulative Distance (Miles)	1.97	.....	.....	.....	.....	.....
BRYANT ST. Fifth St.	Distance (Miles)	1.94	.....	.....	.....	.....	.....
	Speed (Miles per Hour)	23.29	.....	.....	.....	.....	23.29
	Cumulative Distance (Miles)	1.94	.....	.....	.....	.....	.....
BAYSHORE BLVD., Harrison, Tenth Sts. POTRERO AVE. (Off at 5th)	Distance (Miles)	1.87	1.47	2.80	.....	.....	.....
	Speed (Miles per Hour)	22.43	17.69	27.58	.....	.....	22.57
	Cumulative Distance (Miles)	1.87	3.34	5.64	.....	.....	.....
POST ST. Howard, Second, Market and Montgomery (Off at 1st)	Distance (Miles)	1.03	.....	.....	.....	.....	.....
	Speed (Miles per Hour)	12.34	.....	.....	.....	.....	12.34
	Cumulative Distance (Miles)	1.03	.....	.....	.....	.....	.....
MARKET ST., PORTOLA DRIVE Fifth St. (Off at 5th)	Distance (Miles)	1.41	1.06	1.71	2.33	.....	.....
	Speed (Miles per Hour)	16.86	12.76	20.43	27.99	.....	19.53
	Cumulative Distance (Miles)	1.41	2.47	4.18	6.51	.....	.....
RECAPITULATION	Distance (Miles)	1.48	1.23	1.69	1.74	.....	.....
	Speed (Miles per Hour)	17.76	14.76	20.28	20.88	.....	18.42
	Cumulative Distance (Miles)	1.48	2.71	4.40	6.14	.....	.....

APPENDIX IV  
TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)	
		5	10	15	20	25		
BROADWAY & PACIFIC ST.	Kearny, Columbus and Van Ness	Distance (Miles) .....	.77	1.20	.....	.....	.....	11.88
		Speed (Miles per Hour) .....	9.34	13.70	.....	.....	.....	
		Cumulative Distance (Miles) .....	.77	1.97	.....	.....	.....	
BRYANT ST.	Third	Distance (Miles) .....	1.36	1.54	.....	.....	.....	17.40
		Speed (Miles per Hour) .....	16.32	18.50	.....	.....	.....	
		Cumulative Distance (Miles) .....	1.36	2.90	.....	.....	.....	
HARRISON ST.	Third	Distance (Miles) .....	1.29	1.41	.....	.....	.....	16.20
		Speed (Miles per Hour) .....	15.53	16.95	.....	.....	.....	
		Cumulative Distance (Miles) .....	1.29	2.70	.....	.....	.....	
FOLSOM ST.	Third	Distance (Miles) .....	1.46	1.74	.....	.....	.....	18.21
		Speed (Miles per Hour) .....	17.68	20.80	.....	.....	.....	
		Cumulative Distance (Miles) .....	1.46	3.20	.....	.....	.....	
HOWARD ST., VAN NESS AVE. SOUTH	Third	Distance (Miles) .....	1.08	1.41	.....	.....	.....	14.93
		Speed (Miles per Hour) .....	12.99	16.90	.....	.....	.....	
		Cumulative Distance (Miles) .....	1.08	2.49	.....	.....	.....	
MISSION ST.	Third	Distance (Miles) .....	.93	1.05	.94	1.27	1.91	
		Speed (Miles per Hour) .....	11.14	12.60	11.30	15.25	22.90	14.62
		Cumulative Distance (Miles) .....	.93	1.98	2.92	4.19	6.10	
BAYSHORE BLVD., POTRERO AVE.	Third, Harrison, Tenth	Distance (Miles) .....	.....	1.32	1.69	.....	.....	17.26
		Speed (Miles per Hour) .....	.....	15.80	20.30	.....	.....	
		Cumulative Distance (Miles) .....	.....	2.61	4.30	.....	.....	

APPENDIX IV  
TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
BALBOA & TURK STS.	Market	Distance (Miles) .....	.81	1.58	1.98	.....	.....
		Speed (Miles per Hour) .....	9.70	18.98	23.70	.....	17.46
		Cumulative Distance (Miles) .....	.81	2.39	4.37	.....	.....
O'FARRELL ST.	Market	Distance (Miles) .....	.81	.....	.....	.....	.....
		Speed (Miles per Hour) .....	9.77	.....	.....	.....	9.77
		Cumulative Distance (Miles) .....	.81	.....	.....	.....	.....
GEARY ST.	.....	Distance (Miles) .....	.73	.....	.....	.....	.....
		Speed (Miles per Hour) .....	8.75	.....	.....	.....	8.75
		Cumulative Distance (Miles) .....	.73	.....	.....	.....	.....
POST ST.	Kearny	Distance (Miles) .....	.88	1.34	1.75	1.75	.....
		Speed (Miles per Hour) .....	6.98	16.08	20.94	20.99	16.25
		Cumulative Distance (Miles) .....	.58	1.92	3.67	5.42	.....
SUTTER ST.	Kearny	Distance (Miles) .....	.62	.....	.....	.....	.....
		Speed (Miles per Hour) .....	7.40	.....	.....	.....	7.40
		Cumulative Distance (Miles) .....	.62	.....	.....	.....	.....
BUSH ST.	Kearny	Distance (Miles) .....	.69	.....	.....	.....	.....
		Speed (Miles per Hour) .....	8.26	.....	.....	.....	8.26
		Cumulative Distance (Miles) .....	.69	.....	.....	.....	.....
PINE ST.	Kearny	Distance (Miles) .....	.84	.....	.....	.....	.....
		Speed (Miles per Hour) .....	10.12	.....	.....	.....	10.12
		Cumulative Distance (Miles) .....	.84	.....	.....	.....	.....

## APPENDIX IV

## TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS

(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
DOLORES ST., SAN JOSE AVE.	Market	Distance (Miles) .....	.75	.83	1.45	1.97	1.76
		Speed (Miles per Hour) .....	9.00	9.92	17.46	23.58	21.15
		Cumulative Distance (Miles) .....	.75	1.58	3.03	5.00	6.76
VALENCIA ST.	Market	Distance (Miles) .....	.75	.78	1.47	.....	.....
		Speed (Miles per Hour) .....	9.00	9.40	17.58	.....	11.99
		Cumulative Distance (Miles) .....	.75	1.53	3.00	.....	.....
BATTERY ST.	Kearny and Bush	Distance (Miles) .....	.76	.....	.....	.....	9.14
		Speed (Miles per Hour) .....	9.14	.....	.....	.....	.....
		Cumulative Distance (Miles) .....	.76	.....	.....	.....	.....
COLUMBUS AVE., MONTGOMERY ST.	Kearny and Post	Distance (Miles) .....	.51	1.24	.....	.....	.....
		Speed (Miles per Hour) .....	6.11	14.92	.....	.....	10.52
		Cumulative Distance (Miles) .....	.51	1.75	.....	.....	.....
SEVENTEENTH ST.	Market and Fell	Distance (Miles) .....	.75	.83	1.52	.....	.....
		Speed (Miles per Hour) .....	9.00	9.92	18.33	.....	12.42
		Cumulative Distance (Miles) .....	.75	1.58	3.10	.....	.....
Fell St., North Drive of G. G. Park to Park-Presidio Blvd.	Market and Franklin	Distance (Miles) .....	.75	.90	1.92	.....	.....
		Speed (Miles per Hour) .....	9.00	10.84	23.01	.....	14.28
		Cumulative Distance (Miles) .....	.75	1.65	3.57	.....	.....



APPENDIX IV  
TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS  
(Based on Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
FULTON & McALLISTER STS.	Market and Franklin	Distance (Miles)	.77	1.19	1.70	2.27	.....
		Speed (Miles per Hour)	9.22	14.25	20.48	27.26	17.80
		Cumulative Distance (Miles)	.77	1.96	3.66	5.93	.....
GOLDEN GATE AVE.	Market	Distance (Miles)	.75	.....	.....	.....	.....
		Speed (Miles per Hour)	8.98	.....	.....	.....	8.98
		Cumulative Distance (Miles)	.75	.....	.....	.....	.....
CALIFORNIA ST.	Kearny	Distance (Miles)	.89	1.23	1.67	.....	.....
		Speed (Miles per Hour)	10.68	14.77	20.00	.....	15.15
		Cumulative Distance (Miles)	.89	2.12	3.79	.....	.....
STOCKTON ST.	Market	Distance (Miles)	.43	.....	.....	.....	5.10
		Speed (Miles per Hour)	5.10	.....	.....	.....	.....
		Cumulative Distance (Miles)	.43	.....	.....	.....	.....
BAY ST., MARINA BLVD.	Kearny, Columbus Ave., and Cervantes Blvd.	Distance (Miles)	.74	.82	1.59	1.60	.....
		Speed (Miles per Hour)	8.86	9.91	19.02	19.19	14.23
		Cumulative Distance (Miles)	.74	1.56	3.15	4.75	.....
RECAPITULATION		Distance (Miles)	.83	1.20	1.61	1.77	1.83
		Speed (Miles per Hour)	9.96	14.40	19.32	21.24	21.96
		Cumulative Distance (Miles)	.83	2.03	3.64	5.41	7.24

## APPENDIX IV

## TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS

(Based on Off Peak Hour Field Observations)

Principal Routes	Via	L o c a t i o n (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
BROADWAY & PACIFIC ST.	Kearny, Columbus Ave., Van Ness Ave.	Distance (Miles) .....	1.00	1.48	.....	.....	14.86
		Speed (Miles per Hour) .....	11.98	17.73	.....	.....	
		Cumulative Distance (Miles) .....	1.00	2.48	.....	.....	
BRYANT ST.	Third	Distance (Miles) .....	1.28	1.58	.....	.....	17.18
		Speed (Miles per Hour) .....	15.32	19.02	.....	.....	
		Cumulative Distance (Miles) .....	1.28	2.86	.....	.....	
HARRISON ST.	Third	Distance (Miles) .....	1.62	1.60	.....	.....	19.30
		Speed (Miles per Hour) .....	19.38	19.22	.....	.....	
		Cumulative Distance (Miles) .....	1.62	3.22	.....	.....	
FOLSOM ST.	Third	Distance (Miles) .....	1.43	1.67	.....	.....	18.63
		Speed (Miles per Hour) .....	17.14	20.11	.....	.....	
		Cumulative Distance (Miles) .....	1.43	3.10	.....	.....	
HOWARD ST., VAN NESS AVE., SOUTH	Third	Distance (Miles) .....	1.22	2.40	.....	.....	21.75
		Speed (Miles per Hour) .....	14.68	28.81	.....	.....	
		Cumulative Distance (Miles) .....	1.22	3.62	.....	.....	
MISSION ST.	Third	Distance (Miles) .....	.98	1.11	1.37	1.84	15.91
		Speed (Miles per Hour) .....	11.81	13.22	16.48	22.11	
		Cumulative Distance (Miles) .....	.98	2.09	3.46	5.30	

## APPENDIX IV

## TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS

(Based on Off Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)
		5	10	15	20	25	
BAYSHORE BLVD. Third		Distance (Miles).....	1.29	1.77	2.34	.....	.....
		Speed (Miles per Hour).....	15.48	21.30	28.04	.....	21.60
		Cumulative Distance (Miles).....	1.29	3.06	5.40	.....	.....
PINE ST.	Kearny	Distance (Miles).....	1.21	.....	.....	.....	.....
		Speed (Miles per Hour).....	14.57	.....	.....	.....	14.57
		Cumulative Distance (Miles).....	1.21	.....	.....	.....	.....
CALIFORNIA ST.	Kearny	Distance (Miles).....	1.21	1.91	.....	.....	.....
		Speed (Miles per Hour).....	14.48	22.97	.....	.....	18.73
		Cumulative Distance (Miles).....	1.21	3.12	.....	.....	.....
STOCKTON ST.	Market	Distance (Miles).....	.51	.....	.....	.....	.....
		Speed (Miles per Hour).....	6.11	.....	.....	.....	6.11
		Cumulative Distance (Miles).....	.51	.....	.....	.....	.....
BAY ST., MARINA BLVD.	Kearny, Columbus Ave., and Cervantes Blvd.	Distance (Miles).....	.96	1.76	1.59	.....	.....
		Speed (Miles per Hour).....	11.46	21.14	19.08	.....	17.23
		Cumulative Distance (Miles).....	.96	2.72	4.31	.....	.....
RECAPITULATION		Distance (Miles).....	.98	1.54	1.77	1.82	.....
		Speed (Miles per Hour).....	11.76	18.48	21.24	21.84	18.33
		Cumulative Distance (Miles).....	.98	2.52	4.29	6.11	.....

## APPENDIX IV

TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS  
(Based on Off Peak Hour Field Observations)

Principal Routes	Via	Market	Location (Minutes)					Over-All Speed (Miles per Hour)
			5	10	15	20	25	
GOLDEN GATE AVE.			.90	.....	.....	.....	.....	.....
		Distance (Miles)	.....	.....	.....	.....	.....	.....
		Speed (Miles per Hour)	10.84	.....	.....	.....	.....	10.84
BALBOA & TURK STS.			.90	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.....	.....	.....	.....	.....	.....
		Distance (Miles)	.88	1.34	1.60	.....	.....	.....
O'FARRELL ST.			.88	10.59	16.02	19.22	.....	.....
		Speed (Miles per Hour)	.....	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.88	2.22	3.82	.....	.....	15.28
GEARY ST.			.81	.....	.....	.....	.....	.....
		Distance (Miles)	.....	.....	.....	.....	.....	.....
		Speed (Miles per Hour)	9.77	.....	.....	.....	.....	9.77
POST ST.			.66	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.....	.....	.....	.....	.....	.....
		Distance (Miles)	7.87	.....	.....	.....	.....	7.87
SUTTER ST.			.66	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.....	.....	.....	.....	.....	.....
		Distance (Miles)	.60	1.07	1.67	1.72	.....	.....
BUSH ST.			7.17	12.88	20.06	20.60	.....	.....
		Speed (Miles per Hour)	.....	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.60	1.67	3.34	5.06	.....	15.18
SUTTER ST.			.68	.....	.....	.....	.....	.....
		Distance (Miles)	.....	.....	.....	.....	.....	.....
		Speed (Miles per Hour)	8.17	.....	.....	.....	.....	8.17
BUSH ST.			.68	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.....	.....	.....	.....	.....	.....
		Distance (Miles)	.96	.....	.....	.....	.....	.....
BUSH ST.			11.54	.....	.....	.....	.....	.....
		Speed (Miles per Hour)	.....	.....	.....	.....	.....	.....
		Cumulative Distance (Miles)	.96	.....	.....	.....	.....	11.54

## APPENDIX IV

## TIME ZONE DISTANCES AND SPEEDS FROM THIRD, KEARNY AND MARKET STREETS

(Based on Off Peak Hour Field Observations)

Principal Routes	Via	Location (Minutes)					Over-All Speed (Miles per Hour)	
		5	10	15	20	25		
DOLORES ST., SAN JOSE AVE.	Market							
		.92	1.30	1.58	1.91			
		11.03	15.62	18.96	22.89			17.12
VALENCIA ST.	Market							
		.92	2.22	3.80	5.71			
		11.03	15.15					13.09
BATTERY ST.	Kearny and Bush							
		.96	2.18					
		11.55						11.55
COLUMBUS AVE., MONTGOMERY ST.	Kearny and Post							
		.71						
		8.53						8.53
SEVENTEENTH ST.	Market and Fell							
		.92	1.44					
		11.03	17.96					14.14
Fell St., North Drive of G. G. Park to Park-Presidio Blvd.	Market and Stanyan							
		.92	1.81	1.79				
		11.03	15.75	21.43				16.07
FULTON & McALLISTER STS.	Market and Franklin							
		1.00	1.61	2.18				
		12.04	19.73	26.15				19.17
		1.00	2.61	4.79				

## APPENDIX V

### ORIGIN *and* DESTINATION

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NOTE: The following numbered zones are outside of the limits of the City and County of San Francisco:

- 26—Marin County and localities north of San Francisco.
- 27—East Bay and localities east of San Francisco.
- 66—Daly City.
- 94—South San Francisco.
- 95—San Mateo County.
- 96—Santa Clara County and all localities south of Santa Clara County.



## APPENDIX V

ORIGIN - DESTINATION GATEWAYS  
*o f*  
 SAN FRANCISCO INTRA-CITY STUDY

Gate- way	No. Zone		STATION LOCATION		Vehicles Passing	
			Street	Between	Station	Total
A	1	1	Third St.	Berry & Channel Sts.	14,800	
	2	1	Sixth St.	Berry & Channel Sts.	600	15,400
B	67	7	Bryant St.	Alameda & Fifteenth Sts.	3,200	
	68	7	Potrero Ave.	Alameda & Fifteenth Sts.	22,800	
	69	7	Kansas St.	Alameda & Fifteenth Sts.	100	26,100
C	3	1	Treat Ave.	Bryant & Florida Sts.	8,600	
	4	1	Harrison St.	Twelfth & Thirteenth Sts.	8,100	
	5	1	Folsom St.	Twelfth & Thirteenth Sts.	4,900	
	6	1	Howard St.	Twelfth & Thirteenth Sts.	9,300	
	7	1	Van Ness Ave. South	Mission St. & Van Ness Ave. So.	7,600	
	8	1	Mission St.	Thirteenth St. & Van Ness Ave. So.	8,400	
	9	1	Otis St.	McCoppin St. & Van Ness Ave. So.	2,400	49,300
D	14	2	Davis St.	Sacramento & California Sts.	3,000	
	15	2	Front St.	Sacramento & California Sts.	2,600	
	16	2	Battery St.	Sacramento & California Sts.	6,700	
	17	2	Sansome St.	Sacramento & California Sts.	4,500	
	18	2	Montgomery St.	Sacramento & California Sts.	6,700	
	19	2	Kearny St.	Sacramento & California Sts.	6,300	
	20	2	Grant Ave.	Sacramento & California Sts.	3,600	
E	21	2	Stockton St.	Pacific Ave. & Jackson St.	5,000	38,400
	10	1	Polk St.	California & Pine Sts.	7,700	
	11	1	Larkin St.	California & Pine Sts.	6,900	
	12	1	Hyde St.	Post & Geary Sts.	3,500	
	13	1	Leavenworth St.	Post & Geary Sts.	5,000	23,100
F	25	2	Van Ness Ave.	Washington & Clay Sts.	17,600	
	32	3	Franklin St.	Washington & Clay Sts.	5,500	23,100
G	28	3	Post St.	Octavia & Gough Sts.	6,600	
	29	3	Bush St.	Octavia & Gough Sts.	7,600	
	30	3	Pine St.	Octavia & Gough Sts.	5,800	
	31	3	California St.	Octavia & Gough Sts.	10,300	30,300

## APPENDIX V

Gate-way	No. Zone		STATION LOCATION		Vehicles Passing	
			Street	Between	Station	Total
H	36	3	Fulton St.	Octavia & Gough Sts.	5,300	
	37	3	Fell St.	Octavia & Gough Sts.	7,400	
	38	3	Gough St.	Haight & Page Sts.	1,900	
	39	3	Market St.	Gough & Franklin Sts.	16,600	31,200
J	40	3	Duboce Ave.	Sanchez & Belcher Sts.	6,700	
	41	3	Fourteenth St.	Sanchez & Belcher Sts.	1,900	
	42	3	Sanchez St.	Fourteenth & Market Sts.	4,900	13,500
K	33	3	Webster St.	Pacific Ave. & Jackson St.	2,900	
	34	3	Steiner St.	Pacific Ave. & Jackson St.	3,700	
	35	3	Scott St.	Pacific Ave. & Jackson St.	2,700	9,300
L	26	2	Pacific Ave.	Van Ness Ave. & Polk St.	7,100	
	27	2	Broadway	Van Ness Ave. & Polk St.	4,000	11,100
M	22	2	Union St.	Leavenworth & Jones Sts.	4,100	
	23	2	Bay St.	Polk & Larkin Sts.	8,700	
	24	2	North Point St.	Polk & Larkin Sts.	4,800	17,600
N	43	3	Seventeenth St.	Collingwood & Diamond Sts.	4,800	
	44	3	Market St.	Collingwood & Diamond Sts.	10,200	15,000
O	45	4	Turk St.	Masonic & Parker Aves.	7,600	
	46	4	Geary Blvd.	Masonic Ave. & Wood St.	11,700	
	47	4	California St.	Presidio Ave. & Walnut St.	9,400	
	72	8	Fulton St.	Masonic Ave. & Ashbury St.	4,500	
	76	8	Stanyan St.	Fell & Hayes Sts.	1,800	35,000
P	48	4	Arguello Blvd.	Lake & Clay Sts.	7,200	
	49	4	Funston Ave.	Lake & California Sts.	100	7,300
Q	50	4	Kezar Stadium Rd.	At Third Ave.	10,500	
	51	5	Sunset Blvd.	} Lincoln Way & Irving St.	1,100	
			Thirty-sixth Ave.			
	52	5	Seventh Ave.		5,700	
	53	5	Nineteenth Ave.	Lincoln Way & Irving St.	8,300	25,600
R	54	5	Skyline Blvd.	At Sloat Boulevard	2,800	
	55	5	Sloat Blvd.	Nineteenth Ave. & Junipero Serra	4,600	
	56	5	Junipero Serra	St. Francis & Monterey Blvds.	6,900	14,300

## APPENDIX V

Gate-way	No.	Zone	STATION LOCATION		Vehicles Passing	
			Street	Between	Station	Total
S	57	6	Vicente St.	West Portal Ave. & Wawona St.	2,300	
	58	6	Taraval St.	Claremont Blvd. & Lenox Way	1,400	
	59	6	Laguna Honda Blvd.	At Magellan Ave.	8,600	12,300
T	60	6	Chenery St.	San Miguel & Mateo Sts	1,400	
	61	6	Bernal Ave.	San Miguel & Mateo Sts.	12,700	
	62	6	Mission St.	College & St. Mary's Aves.	10,200	
	84	9	Alemanly Blvd.	Genebern Way & Mission St.	8,200	32,500
U	63	6	Ocean Ave.	San Fernando Way & Junipero Serra Blvd.	4,900	4,900
V	64	6	Junipero Serra	Alemanly Blvd. & Belle Ave.	6,500	
	65	6	San Jose Ave.	Rice & Goethe Sts.	5,000	
	66	6	Mission St.	Huron Ave. & Liebig St.	4,400	15,900
W	70	7	Seventeenth St.	Carolina & De Haro Sts.	5,900	5,900
X	71	7	Army St.	Kansas & Connecticut Sts.	4,000	
	82	9	Oakdale Ave.	Bayshore Blvd. & Loomis St.	2,700	
	83	9	Potrero Ave.	Army St. & Peralta Ave.	27,600	34,300
Y	73	8	Masonic Ave.	Hayes & Fell Sts.	5,600	
	74	8	Fell St.	Masonic Ave. & Ashbury St.	9,100	14,700
Z	75	8	Oak St.	Masonic & Central Aves.	5,600	
	77	8	Haight St.	Lyon & Baker Sts.	3,800	9,400
AA	78	8	Frederick St.	Willard St. & Arguello Blvd.	4,700	4,700
BB	79	8	Parnassus Ave.	Willard St. & Arguello Blvd.	3,700	3,700
CC	80	8	Grand View Ave.	Twenty-third & Alvarado Sts.	1,300	1,300
DD	81	8	Twin Peaks Blvd.	O'Shaughnessy Blvd. & Stanford Hts. Ave.	10,400	10,400
EE	85	9	Persia Ave.	Madrid & Lisbon Sts.	800	
	86	9	Geneva Ave.	Madrid & Lisbon Sts.	3,900	4,700
FF	87	9	Third St.	Evans Ave. & Fairfax Ave.	9,600	9,600

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
SUMMARY OF COMBINED MOVEMENT BETWEEN ZONES  
AND THE PER CENT OF THE TOTAL MOVEMENT  
REPRESENTED

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94 95 96	Total
1	526 1.25	1678 3.98	588 1.39	33 0.08	42 0.10	977 2.31	1293 3.06	1048 2.48	663 1.57	262 0.62	1473 3.49	401 0.95	538 1.27	468 1.11	9900 23.66
2	1678 3.98	221 0.52	261 0.63	4 0.01	66 0.16	572 1.36	433 1.02	242 0.57	158 0.37	67 0.16	435 1.03	130 0.31	156 0.37	146 0.35	4569 10.84
25	588 1.39	261 0.63	6 0.01	1 0.00	11 0.03	323 0.77	215 0.51	104 0.25	45 0.11	9 0.02	137 0.32	32 0.08	28 0.06	59 0.14	1819 4.32
26	33 0.08	4 0.01	1 0.00	1 0.00	2 0.00	8 0.02	16 0.04	12 0.03	9 0.02	4 0.01	11 0.03	1 0.00	3 0.01	14 0.03	118 0.28
27	42 0.10	66 0.16	11 0.03	2 0.00	7 0.02	23 0.05	65 0.15	57 0.14	23 0.05	11 0.03	34 0.08	21 0.05	14 0.03	49 0.12	425 1.01
3	977 2.31	572 1.36	323 0.77	8 0.02	23 0.05	267 0.63	483 1.14	395 0.94	177 0.42	39 0.09	394 0.93	197 0.47	93 0.22	155 0.37	4103 9.72
4	1293 3.06	433 1.02	215 0.51	16 0.04	65 0.15	483 1.14	271 0.64	282 0.67	288 0.68	49 0.12	493 1.17	171 0.41	97 0.23	192 0.45	4348 10.29
5	1048 2.48	242 0.57	104 0.25	12 0.03	57 0.14	395 0.94	282 0.67	102 0.24	380 0.90	40 0.09	455 1.08	196 0.46	105 0.25	101 0.24	3519 8.34
6	663 1.57	158 0.37	45 0.11	9 0.02	23 0.05	177 0.42	288 0.68	380 0.90	126 0.30	136 0.32	424 1.00	77 0.18	208 0.49	120 0.28	2834 6.69
66	262 0.62	67 0.16	9 0.02	4 0.01	11 0.03	39 0.09	49 0.12	40 0.09	136 0.32	14 0.03	123 0.29	12 0.03	46 0.11	7 0.02	819 1.94

## APPENDIX V

SAN FRANCISCO ORIGIN - DESTINATION STUDY  
SUMMARY OF COMBINED MOVEMENT BETWEEN ZONES  
AND THE PER CENT OF THE TOTAL MOVEMENT  
REPRESENTED

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94	95	96	Total
7	1473	435	137	11	34	394	493	455	424	123	77	186	347	171	—	—	4760
	3.49	1.03	0.32	0.03	0.08	0.93	1.17	1.08	1.00	0.29	0.18	0.44	0.82	0.41	—	—	11.27
8	401	130	32	1	21	197	171	196	77	12	186	59	28	56	—	—	1567
	0.95	0.31	0.08	...	0.05	0.47	0.41	0.46	0.18	0.03	0.44	0.14	0.07	0.13	—	—	3.72
9	538	156	28	3	14	93	97	105	208	46	347	28	63	36	—	—	1762
	1.27	0.37	0.06	0.01	0.03	0.22	0.23	0.25	0.49	0.11	0.82	0.07	0.15	0.09	—	—	4.17
94-95-96	468	146	59	14	49	155	192	101	120	7	171	56	36	4	—	—	1578
	1.11	0.35	0.14	0.03	0.12	0.37	0.45	0.24	0.28	0.02	0.41	0.13	0.09	0.01	—	—	3.75
TOTALS:	9990	4569	1819	118	425	4103	4348	3519	2834	819	4760	1567	1762	1578	—	—	49211
	23.66	10.84	4.32	0.28	1.01	9.72	10.29	8.34	6.69	1.94	11.27	3.72	4.17	3.75	—	—	100.00

NOTE: The following numbered zones are outside of the limits of the City and County of San Francisco:

26—Marin County and localities north of San Francisco.

27—East Bay and localities east of San Francisco.

94—Daly City.

95—San Francisco.

96—San Mateo County.

97—Santa Clara County and all localities south of Santa Clara County.

## APPENDIX V

SAN FRANCISCO ORIGIN - DESTINATION STUDY  
SUMMARY OF ORIGINS AND DESTINATIONS OF VEHICULAR TRAFFIC  
AND THE PER CENT OF THE TOTAL REPRESENTED  
ORIGIN ZONES

Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94	95	96	Total
1	526	820	261	20	22	483	604	504	301	128	711	214	235	229	229	5458	
	2.39	3.73	1.19	0.09	0.10	2.21	2.76	2.30	1.38	0.58	3.25	0.97	1.07	1.04	1.04	23.06	
2	858	221	104	1	25	265	191	102	66	25	208	73	68	56	56	2327	
	3.90	1.00	0.47	...	0.11	1.21	0.87	0.46	0.30	0.11	0.95	0.33	0.31	0.25	0.25	10.27	
25	327	157	6	1	4	148	127	53	21	2	67	17	13	25	25	857	
	1.49	0.71	0.03	...	0.02	0.67	0.58	0.24	0.10	0.01	0.30	0.08	0.06	0.11	0.11	4.40	
26	13	3	...	...	1	2	7	4	5	2	4	...	2	7	7	68	
	0.06	0.01	...	...	...	0.01	0.03	0.02	0.02	0.01	0.02	...	0.01	0.03	0.03	0.22	
27	20	41	7	1	7	7	31	31	12	4	16	12	6	22	215	215	
	0.09	0.19	0.03	...	0.03	0.03	0.14	0.14	0.05	0.02	0.07	0.05	0.03	0.10	0.97	0.97	
3	494	307	175	6	16	267	243	173	84	20	183	102	47	63	63	2190	
	2.25	1.40	0.80	0.03	0.07	1.22	1.12	0.79	0.38	0.09	0.83	0.46	0.21	0.29	0.29	9.94	
4	689	242	88	9	34	240	271	136	141	32	261	89	44	86	86	2257	
	3.14	1.10	0.40	0.04	1.15	1.09	1.23	0.62	0.64	0.15	1.19	0.40	0.20	0.39	0.39	10.74	
5	544	140	51	8	26	222	146	102	196	20	234	103	57	51	51	1721	
	2.48	0.64	0.23	0.04	0.12	1.01	0.66	0.46	0.89	0.09	1.06	0.47	0.26	0.23	0.23	8.64	
6	362	92	24	4	11	93	147	184	126	61	230	38	109	55	55	1424	
	1.65	0.42	0.11	0.02	0.05	0.42	0.67	0.84	0.57	0.28	1.05	0.17	0.50	0.25	0.25	7.00	



## APPENDIX V

SAN FRANCISCO ORIGIN - DESTINATION STUDY  
SUMMARY OF ORIGINS AND DESTINATIONS OF VEHICULAR TRAFFIC  
AND THE PER CENT OF THE TOTAL REPRESENTED  
ORIGIN ZONES

Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94	95	96	Total
66	134	42	7	2	7	19	17	20	75	14	66	7	31	4			388
	0.61	0.19	0.03	0.01	0.03	0.09	0.08	0.09	0.34	0.06	0.30	0.03	0.14	0.02			2.02
7	762	227	70	7	18	211	232	221	194	57	77	88	174	74			2425
	3.47	1.03	0.32	0.03	0.08	0.96	1.06	1.01	0.88	0.26	0.35	0.40	0.79	0.34			10.98
8	187	57	15	1	9	95	82	93	39	5	98	59	15	22			849
	0.85	0.26	0.07	...	0.04	0.43	0.37	0.42	0.18	0.02	0.45	0.27	0.07	0.10			3.53
9	303	88	15	1	8	46	53	48	99	15	173	13	63	25			875
	1.38	0.40	0.07	...	0.03	0.21	0.24	0.22	0.45	0.07	0.79	0.06	0.29	0.11			4.32
94-95-96	239	90	34	7	27	92	106	50	65	3	97	34	11	4			723
	1.09	0.41	0.15	0.03	0.12	0.42	0.48	0.23	0.30	0.01	0.44	0.16	0.05	0.02			3.91
TOTALS:	5458	2527	857	68	215	2190	2257	1721	1424	388	2425	849	875	723			21977
	24.85	11.49	3.90	0.29	0.95	9.98	10.29	7.84	6.48	1.76	11.05	3.85	3.99	3.28			100.00

Note: The following numbered zones are outside of the limits of the City and County of San Francisco:

94—Marin County and localities north of San Francisco.

27—East Bay and localities east of San Francisco.

66—Daly City.

94—South San Francisco.

95—San Mateo County.

96—Santa Clara County and all localities south of Santa Clara County.

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY A

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	30	9	1	---	---	2	---	1	3	2	14	---	155	29
2	9	---	---	1	---	---	---	---	3	1	6	1	36	9
25	1	---	---	---	---	---	---	---	---	---	---	---	2	1
26	---	1	---	---	---	---	---	---	---	---	---	---	---	1
27	---	---	---	---	---	---	---	---	---	1	---	---	4	4
3	2	---	---	---	---	---	---	---	---	---	---	---	1	1
4	---	---	---	---	---	---	---	---	---	---	1	---	3	---
5	1	---	---	---	---	---	---	---	---	---	---	---	6	---
6	3	3	---	---	---	---	---	---	---	---	---	---	6	---
66	2	1	---	---	1	---	---	---	---	---	---	---	---	---
7	14	6	---	---	---	---	1	---	---	---	---	---	8	---
8	---	1	---	---	---	---	---	---	---	---	---	---	1	---
9	155	36	2	---	4	1	3	6	6	---	8	1	5	2
94-95-96	29	9	1	1	4	1	---	---	---	---	---	---	2	---
TOTAL:	246	66	4	2	9	4	4	7	12	4	29	2	229	47 = 665

## APPENDIX V

SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

## GATEWAY B

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	2	...	...	...	1	1	4	26	9	187	1	74	67
2	2	...	...	...	...	...	...	...	...	2	25	...	3	6
25	...	...	...	...	...	...	...	...	...	...	3	...	...	...
26	...	...	...	...	...	...	...	...	...	...	1	...	...	...
27	...	...	...	...	...	...	...	...	2	...	12	...	2	6
3	1	...	...	...	...	...	...	...	...	...	19	...	4	4
4	1	...	...	...	...	...	...	...	...	...	5	...	1	...
5	4	...	...	...	...	...	...	...	...	...	...	...	...	...
6	26	...	...	...	2	...	...	...	...	...	3	...	...	2
66	9	2	...	...	...	...	...	...	...	...	1	...	1	...
7	187	25	3	1	12	19	5	...	3	1	21	1	13	...
8	1	...	...	...	...	...	...	...	...	...	1	...	...	...
9	74	3	...	...	2	4	1	...	...	1	13	...	1	1
94-95-96	67	6	...	...	6	4	...	...	2	...	...	...	1	...
TOTAL:	372	38	3	1	22	28	7	4	33	13	291	2	100	86 = 1000

APPENDIX V  
 SAN FRANCISCO ORIGIN - DESTINATION STUDY  
 MOVEMENTS BETWEEN ZONES BY GATEWAYS

## GATEWAY C

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	131	8	9	1	9	136	26	48	120	30	976	38	29	33
2	8	....	....	....	3	1	....	4	6	4	99	1	4	1
25	9	....	....	....	....	....	....	....	....	....	8	....	2	3
26	1	....	....	....	....	....	....	....	....	1	4	....	....	....
27	9	3	....	....	1	3	3	3	2	....	17	2	1	3
3	136	1	....	....	3	....	2	....	....	....	44	....	11	4
4	26	....	....	....	3	2	....	....	2	....	12	....	3	....
5	48	4	....	....	3	....	....	....	....	....	7	....	1	....
6	120	6	....	....	2	....	2	....	....	....	....	....	1	....
66	30	4	....	1	....	....	....	....	....	....	....	....	....	....
7	976	99	8	4	17	44	12	7	....	....	12	4	13	2
8	38	1	....	....	2	....	....	....	....	....	4	....	....	1
9	29	4	2	....	1	11	3	1	1	....	13	....	....	....
94-95-96	33	1	3	....	3	4	....	....	....	....	2	1	....	....
TOTAL:	1594	131	22	6	47	201	48	63	131	35	1188	46	65	47 = 3634

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY D

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	85	1031	63	15	18	15	19	4	3	2	8	...	5	6
2	1031	66	14	1	56	62	44	18	20	19	91	14	48	43
25	63	14	...	...	3	...	...	...	...	...	3	...	...	3
26	15	1	...	...	2	2	...	...	1	...	2	...	...	1
27	18	56	3	2	...	3	...	...	...	...	...	...	...	2
3	15	62	...	2	3	...	...	...	...	...	1	...	...	...
4	19	44	...	...	...	...	2	...	...	...	1	...	...	...
5	4	18	...	...	...	...	...	...	...	...	...	...	...	...
6	3	20	...	1	...	...	...	...	...	...	...	...	...	...
66	2	19	...	...	...	...	...	...	...	...	...	...	...	...
7	8	91	3	2	...	1	1	...	...	...	...	...	...	1
8	...	14	...	...	...	...	...	...	...	...	...	...	...	...
9	5	48	...	...	...	...	...	...	...	...	...	...	...	...
94-95-96	6	43	3	1	2	...	...	...	...	...	1	...	...	...
TOTAL:	1274	1527	86	24	84	83	66	22	24	21	107	14	53	56 = 3441

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY E

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	238	384	85	4	3	78	44	5	4	1	23	6	5	13
2	384	4	...	...	1	49	13	7	8	1	47	10	7	4
25	85	...	...	...	1	4	...	...	...	...	2	...	...	...
26	4	...	...	...	...	...	...	...	...	...	...	...	...	...
27	3	1	1	...	...	1	1	...	...	...	...	...	...	...
3	78	49	4	...	1	...	1	...	...	...	2	...	1	2
4	44	13	...	...	1	1	1	...	1	...	1	1	1	1
5	5	7	...	...	...	...	...	...	...	...	...	...	...	...
6	4	8	...	...	...	...	1	...	...	...	...	...	...	...
66	1	1	...	...	...	...	...	...	...	...	...	...	...	...
7	23	47	2	...	...	2	1	...	...	...	...	...	...	...
8	6	10	...	...	...	...	1	...	...	...	...	...	...	...
9	5	7	...	...	...	1	1	...	...	...	...	...	...	...
94-95-96	13	4	...	...	...	2	1	...	...	...	...	...	...	...
TOTAL:	893	535	92	4	7	138	65	12	13	2	75	17	14	20 = 1887



APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY F

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	8	81	166	7	3	50	13	2	4	...	4	...	...	2
2	81	4	10	...	3	73	17	9	7	1	26	9	9	9
25	166	10	...	1	1	43	10	1	5	3	44	2	3	9
26	7	...	1	...	...	2	2	1	1	...	1	...	2	2
27	3	3	1	...	...	...	3	...	...	1	1	...	...	2
3	50	73	43	2	...	13	1	...	...	...	4	1	2	3
4	13	17	10	2	3	1	...	...	2	...	9	2	...	4
5	2	9	1	1	...	...	...	...	...	...	...	...	...	...
6	4	7	5	1	...	...	2	...	...	...	...	...	...	...
66	...	1	3	...	1	...	...	...	...	...	...	...	...	1
7	4	26	44	1	1	4	9	...	...	...	...	...	...	...
8	...	9	2	...	...	1	2	...	...	...	...	...	...	...
9	...	9	3	2	...	2	...	...	...	...	...	...	...	...
94-95-96	2	9	9	2	2	3	4	...	1	...	...	...	...	...
TOTAL:	340	258	298	19	14	192	63	13	20	5	89	14	16	32 = 1373

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY G

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	1	2	13	---	---	308	325	62	9	---	9	45	---	7
2	2	1	---	---	---	85	70	15	5	---	---	16	---	1
25	13	---	---	---	1	21	3	---	---	---	3	3	---	---
26	---	---	---	---	---	3	2	2	1	---	---	---	---	---
27	---	---	1	---	---	9	4	1	---	---	---	1	---	---
3	308	85	21	3	9	64	38	6	1	---	14	5	4	5
4	325	70	3	2	4	38	4	1	---	---	10	---	---	4
5	62	15	---	2	1	6	1	1	---	---	---	---	---	1
6	9	5	---	1	---	1	---	---	---	---	---	---	---	---
66	---	---	---	---	---	---	---	---	---	---	---	---	---	---
7	9	---	3	---	---	14	10	---	---	---	---	---	---	---
8	45	16	3	---	1	5	---	---	---	---	---	---	---	---
9	---	---	---	---	---	4	---	---	---	---	---	---	---	---
94-95-96	7	1	---	---	---	5	4	1	---	---	---	---	---	---
TOTAL:	781	195	44	8	16	563	461	89	16	---	36	70	4	18 = 2301

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY H

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	8	1	3	....	1	212	106	118	56	11	179	72	4	15
2	1	....	....	....	....	17	7	9	9	2	38	5	3	3
25	3	....	....	....	....	2	1	1	1	....	8	2	....	1
26	....	....	....	....	....	....	1	....	....	....	1	....	1	1
27	1	....	....	....	1	....	8	11	2	....	2	6	....	3
3	212	17	2	....	....	67	9	5	6	1	82	10	9	10
4	106	7	1	1	8	9	1	1	....	1	22	1	4	4
5	118	9	1	....	11	5	1	....	1	....	1	....	5	1
6	56	9	1	....	2	6	....	1	....	....	1	1	....	....
66	11	2	....	....	....	1	1	....	....	....	....	....	....	....
7	179	38	8	1	2	82	22	1	1	....	....	9	1	1
8	72	5	2	....	6	10	1	....	1	....	9	....	2	3
9	4	3	....	1	....	9	4	5	....	....	1	2	....	....
94-95-96	15	3	1	1	3	10	4	1	....	....	1	3	....	....
TOTAL:	786	94	19	4	34	430	166	153	77	15	345	111	29	42 = 2305

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY J

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	1	....	....	....	77	31	38	5	....	13	29	1	1
2	1	....	....	....	....	8	....	....	1	....	9	1	....	....
25	....	....	....	....	....	4	....	....	2	....	15	1	1	....
26	....	....	....	....	....	1	....	....	....	....	....	....	....	....
27	....	....	....	....	....	....	....	1	....	....	....	2	....	....
3	77	8	4	1	....	60	24	15	16	4	188	17	10	10
4	31	....	....	....	....	24	....	....	2	2	125	....	4	1
5	38	....	....	....	1	15	....	....	2	....	41	....	1	....
6	5	1	2	....	....	16	2	2	....	....	1	1	....	....
66	....	....	....	....	....	4	2	....	....	....	....	....	....	....
7	13	9	15	....	....	188	125	41	1	....	3	61	....	....
8	29	1	1	....	2	17	....	....	1	....	61	....	6	1
9	1	....	1	....	....	10	4	1	....	....	....	6	....	....
94-95-96	1	....	....	....	....	10	1	....	....	....	....	1	....	....
TOTAL:	196	20	23	1	3	435	189	98	30	6	456	119	23	13 = 1661

APPENDIX V  
 SAN FRANCISCO ORIGIN - DESTINATION STUDY  
 MOVEMENTS BETWEEN ZONES BY GATEWAYS  
 GATEWAY K

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	1	4	40	....	....	37	11	1	1	....	....	....	....	....
2	4	1	3	....	....	67	32	15	1	1	6	13	....	1
25	40	3	....	....	1	245	102	29	10	2	44	17	2	6
26	....	....	....	....	....	....	....	....	....	....	1	....	....	1
27	....	....	1	....	....	1	1	....	....	....	....	....	....	....
3	37	67	245	....	1	47	30	1	2	1	5	2	....	....
4	11	32	102	....	1	30	3	1	1	....	3	2	....	1
5	1	15	29	....	....	1	1	....	....	....	....	....	....	....
6	1	1	10	....	....	2	1	....	....	....	....	....	....	....
66	....	1	2	....	....	1	....	....	....	....	....	....	....	....
7	....	6	44	1	....	5	3	....	....	....	....	....	....	....
8	....	13	17	....	....	2	2	....	....	....	....	....	....	....
9	....	....	2	....	....	....	....	....	....	....	....	....	....	....
94-95-96	....	1	6	1	....	....	1	....	....	....	....	....	....	....
TOTAL:	95	144	501	2	3	438	187	47	15	4	59	34	2	9 = 1540

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY L

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	8	39	87	....	....	46	33	3	4	....	3	....	....	1
2	39	33	60	....	....	137	78	16	8	3	27	18	2	2
25	87	60	....	....	3	1	2	....	....	....	2	....	2	1
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....
27	....	....	3	....	....	5	....	....	....	....	....	....	....	....
3	46	137	1	....	5	2	....	....	....	....	....	....	1	....
4	33	78	2	....	....	....	....	....	....	....	1	....	....	1
5	3	16	....	....	....	....	....	....	....	....	....	....	....	....
6	4	8	....	....	....	....	....	....	....	....	....	....	....	....
66	....	3	....	....	....	....	....	....	....	....	....	....	....	....
7	3	27	2	....	....	....	1	....	....	....	....	....	....	....
8	....	18	....	....	....	....	....	....	....	....	....	....	....	....
9	....	2	2	....	....	1	....	....	....	....	....	....	....	....
94-95-96	1	2	1	....	....	....	1	....	....	....	....	....	....	....
TOTAL:	224	423	158	....	8	192	115	19	12	3	33	18	5	1215



APPENDIX V  
 SAN FRANCISCO ORIGIN - DESTINATION STUDY  
 MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY M

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	6	114	119	4	1	5	27	7	1	....	2	1	....	....
2	114	108	172	1	2	66	55	21	7	2	37	8	3	5
25	119	172	....	....	1	....	....	....	1	....	3	....	6	2
26	4	1	....	....	....	....	1	....	....	....	....	....	....	....
27	1	2	1	....	....	....	5	....	....	....	....	....	1	....
3	5	66	....	....	....	....	....	....	....	....	....	....	....	1
4	27	55	....	1	5	....	....	....	....	....	....	....	....	1
5	7	21	....	....	....	....	....	....	....	....	1	....	....	....
6	1	7	1	....	....	....	....	....	....	....	....	....	....	....
66	....	2	....	....	....	....	....	....	....	....	....	....	....	....
7	2	37	3	....	....	....	....	1	....	....	....	....	....	1
8	1	8	....	....	....	....	....	....	....	....	....	....	....	....
9	....	3	6	....	1	....	....	....	....	....	....	....	....	....
94-95-96	....	5	2	....	....	1	1	....	....	....	1	....	....	....
TOTAL:	287	601	304	6	10	72	89	29	9	2	44	9	10	10 = 1482

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY N

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	1	3	18	62	22	....	21	51	1	6
2	....	....	....	....	....	....	....	6	4	....	3	3	....	1
25	....	....	....	....	....	....	....	1	1	....	....	....	....	....
26	....	....	....	....	....	....	....	....	1	....	....	....	....	....
27	1	....	....	....	1	1	2	7	4	....	1	5	....	....
3	3	....	....	....	1	3	7	7	12	....	20	19	1	2
4	18	....	....	....	2	7	....	1	....	1	37	3	....	....
5	62	6	1	....	7	7	1	2	1	1	61	2	6	2
6	22	4	1	1	4	12	....	1	....	....	19	4	1	....
66	....	....	....	....	....	....	1	1	....	....	1	....	....	....
7	21	3	....	....	1	20	37	61	19	1	12	64	....	3
8	51	3	....	....	5	19	3	2	4	....	64	2	4	3
9	1	....	....	....	....	1	....	6	1	....	....	4	....	....
94-95-96	6	1	....	....	....	2	....	2	....	....	3	3	....	....
TOTAL:	185	17	2	1	22	75	69	159	69	3	242	160	13	17 = 1094

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY O

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	1	1	...	...	2	487	45	7	2	...	24	...	2
2	1	1	1	...	...	3	61	7	...	1	4	7	...	...
25	1	1	...	...	...	1	21	3	...	...	...	2	...	...
26	...	...	...	...	...	...	4	1	1	...	...	...	...	...
27	...	...	...	...	...	...	21	1	...	...	...	...	...	...
3	2	3	1	...	...	2	265	22	6	1	1	14	...	7
4	487	61	21	4	21	265	76	28	13	1	81	65	14	10
5	45	7	3	1	1	22	28	2	1	...	4	3	...	...
6	7	...	...	1	...	6	13	1	...	...	1	1	...	1
66	2	1	...	...	...	1	1	...	...	...	...	...	...	...
7	...	4	...	...	...	1	81	4	1	...	...	3	...	...
8	24	7	2	...	...	14	65	3	1	...	3	7	...	1
9	...	...	...	...	...	...	14	...	...	...	...	...	...	...
94-95-96	2	...	...	...	...	7	10	...	1	...	...	1	...	...
TOTAL:	571	86	29	6	22	324	1147	117	31	5	94	127	14	21 = 2594

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY P

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	...	...	...	...	...	60	6	...	...	...	...	...	2
2	...	...	...	...	...	2	43	12	2	...	...	1	...	3
25	...	...	...	...	...	...	84	15	2	...	...	...	...	5
26	...	...	...	...	...	...	2	4	1	...	...	1	...	1
27	...	...	...	...	1	...	8	...	...	...	...	...	...	...
3	...	2	...	...	...	1	69	5	1	...	1	...	1	10
4	60	43	84	2	8	69	167	29	9	2	12	11	2	12
5	6	12	15	4	...	5	29	...	...	...	1	...	...	...
6	...	2	2	1	...	1	9	...	...	...	...	...	...	...
66	...	...	...	...	...	...	2	...	...	...	...	...	...	...
7	...	...	...	...	...	1	12	1	...	...	1	...	...	...
8	...	1	...	1	...	...	11	...	...	...	...	...	...	...
9	...	...	...	...	...	1	2	...	...	...	...	...	...	...
94-95-96	2	3	5	1	...	10	12	...	...	...	...	...	...	...
TOTAL:	68	63	106	9	9	90	510	72	15	2	15	13	3	33 = 1008

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY Q

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	1	...	...	...	...	1	3	161	50	1	1	1	...	13
2	...	...	...	...	...	...	...	48	20	1	...	...	...	6
25	...	...	...	...	...	...	...	22	5	...	...	...	2	2
26	...	...	...	...	...	...	...	4	1	...	...	...	...	...
27	...	...	...	...	...	...	...	1	7	...	...	...	1	...
3	1	...	...	...	...	1	3	117	32	1	2	1	2	16
4	3	...	...	...	1	3	4	137	92	12	21	9	8	36
5	161	48	22	4	7	117	137	31	2	1	19	72	5	1
6	50	20	5	1	...	32	92	2	3	...	...	24	...	...
66	1	1	...	...	...	1	12	1	...	...	...	1	...	...
7	1	...	...	...	...	2	21	19	...	...	...	...	...	...
8	1	...	...	...	...	1	9	72	24	1	...	1	...	13
9	...	...	2	...	1	2	8	5	...	...	...	...	...	...
94-95-96	13	6	2	...	...	16	36	1	...	...	...	13	...	...
TOTAL:	232	75	31	5	9	176	326	627	229	17	43	122	18	87 = 1997

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY R

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	6	...	1	...	2	...	9	52	20	1	1	1	...	24
2	...	2	...	...	...	...	1	5	3	2	1	...	...	7
25	1	...	...	...	...	...	1	8	...	...	...	...	...	6
26	...	...	...	...	...	...	1	...	...	1	...	...	...	2
27	2	...	...	...	2	...	1	6	2	...	...	...	...	2
3	...	...	...	...	...	3	...	22	13	5	1	...	1	14
4	9	1	1	1	1	...	6	49	52	13	15	1	1	30
5	52	5	8	...	6	22	49	41	117	13	48	5	16	35
6	20	3	...	...	2	13	52	117	44	7	8	5	3	16
66	1	2	...	1	...	5	13	13	7	...	4	1	...	2
7	1	1	...	...	...	1	15	48	8	4	5	1	1	6
8	1	...	...	...	...	...	1	5	5	1	1	3	2	5
9	...	...	...	...	...	1	1	16	3	...	1	2	2	...
94-95-96	24	7	6	2	2	14	30	35	16	2	6	5	...	2
TOTAL:	117	21	16	4	15	59	180	417	290	49	91	24	26	151 = 1460



APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

Origin or Destination Zones	GATEWAY S													94-95-96
	1	2	25	26	27	3	4	5	6	66	7	8	9	
1	...	...	...	...	...	...	9	108	49	...	...	...	...	2
2	...	...	...	...	...	...	1	15	6	...	1	1	...	2
25	...	...	...	...	...	...	...	6	3	...	...	...	...	2
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	...	...	...	...	...	...	1	3	4	...	...	...	...	1
4	...	...	...	...	...	...	2	35	25	1	2	...	...	6
5	108	15	6	...	3	35	2	19	57	3	13	7	2	13
6	49	6	3	...	4	25	57	182	24	...	52	23	16	14
66	...	...	...	...	...	1	3	...	...	...	1	17	1	3
7	...	1	...	...	...	2	13	52	12	1	...	...	...	5
8	...	1	...	...	...	...	7	23	17	...	...	1	...	3
9	...	...	...	...	...	...	2	16	1	...	...	...	...	...
94-95-96	2	2	2	...	1	6	13	14	3	...	5	3	...	...
TOTAL:	168	26	11	...	9	71	129	492	383	5	86	52	19	51 = 1502

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

## GATEWAY T

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	1	...	...	1	...	...	8	24	156	58	4	1	35	38
2	...	1	...	...	1	...	2	1	19	6	...	...	11	4
25	...	...	...	...	...	...	...	...	7	...	2	...	...	1
26	1	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	1	...	...	...	...	2	...	8	2	...	...	...	...
3	...	...	...	...	...	1	...	2	25	7	1	...	6	10
4	8	2	...	...	2	...	...	1	2	...	10	...	6	2
5	24	1	...	...	2	...	1	...	1	...	27	...	10	...
6	156	19	7	...	8	25	2	1	4	1	262	2	49	1
66	58	6	...	...	2	7	...	...	1	...	46	3	6	1
7	4	...	2	...	...	1	10	27	262	46	5	...	40	30
8	1	...	...	...	...	...	...	...	2	3	...	...	3	...
9	35	11	...	...	1	6	6	10	49	6	40	3	3	6
94-95-96	38	4	1	...	4	10	2	...	1	1	30	...	6	...
TOTAL:	326	45	10	1	18	52	33	66	537	130	427	9	176	97 = 1927

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY U

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	...	...	...	...	...	1	21	9	...	1	...	...	3
2	...	...	...	...	...	...	...	...	4	...	1	...	...	1
25	...	...	...	...	...	1	...	...	2	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	1	...	...	...	...	...	...	...
3	...	...	1	...	...	...	1	2	2	...	...	...	1	...
4	1	...	...	...	1	1	...	...	39	1	8	1	4	3
5	21	...	...	...	...	2	...	...	68	1	19	...	12	1
6	9	4	2	...	...	2	39	68	32	...	5	4	3	5
66	...	...	...	...	...	...	1	1	...	...	...	...	...	...
7	1	1	...	...	...	...	8	19	5	...	...	...	...	1
8	...	...	...	...	...	...	1	...	4	...	...	...	...	...
9	...	...	...	...	...	1	4	12	3	...	...	...	...	...
94-95-96	3	1	...	...	...	...	3	1	5	...	1	...	...	...
TOTAL:	35	6	3	...	1	7	59	124	173	2	35	5	20	14 = 484

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY V

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	....	....	....	3	5	91	....	1	....	81
2	....	....	....	....	....	....	....	....	3	17	....	....	1	11
25	....	....	....	....	....	....	....	....	1	4	....	....	....	12
26	....	....	....	....	....	....	....	....	....	1	....	....	....	4
27	....	....	....	....	1	....	2	....	....	3	....	....	....	10
3	....	....	....	....	....	....	....	....	....	15	....	....	....	32
4	....	....	....	....	2	....	....	1	1	13	....	....	....	56
5	3	....	....	....	....	....	1	2	3	23	3	....	....	41
6	5	3	1	....	....	....	1	3	12	125	8	....	1	81
66	91	17	4	1	3	15	13	23	125	14	61	5	14	3
7	....	....	....	....	....	....	....	3	8	61	1	1	....	78
8	1	....	....	....	....	....	....	....	....	5	1	....	....	15
9	....	1	....	....	....	....	....	....	1	14	....	....	....	7
94-95-96	81	11	12	4	10	32	56	41	81	3	78	15	7	2
TOTAL:	181	32	17	5	16	47	73	76	240	389	152	22	23	483 = 1706

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY W

<i>Origin or Destination Zones</i>	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	1	....	....	2	....	....	3	1	6	....	27	....
2	....	....	1	....	....	....	....	....	....	....	2	....	....	1
25	1	1	....	....	....	....	....	....	....	....	....	....	1	....
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....
27	....	....	....	....	....	....	....	....	....	....	....	....	1	....
3	2	....	....	....	....	....	....	....	....	....	1	....	10	....
4	....	....	....	....	....	....	....	....	....	....	....	....	4	1
5	....	....	....	....	....	....	....	1	....	....	....	....	3	....
6	3	....	....	....	....	....	....	....	....	....	1	....	7	....
66	1	....	....	....	....	....	....	....	....	....	....	....	1	....
7	6	2	....	....	....	1	....	....	1	....	6	....	58	2
8	....	....	....	....	....	....	....	....	....	....	....	....	1	2
9	27	....	1	....	1	10	4	3	7	1	58	1	3	1
94-95-96	....	1	....	....	....	....	1	....	....	....	2	....	1	....
TOTAL:	40	4	3	....	1	13	5	4	11	2	76	1	117	5 = 282

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

## GATEWAY X

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	2	....	....	....	2	....	....	5	25	12	18	....	110	82
2	....	....	....	....	....	....	....	....	4	1	9	....	12	18
25	....	....	....	....	....	....	....	....	....	....	1	1	7	4
26	....	....	....	....	....	....	....	....	....	....	1	....	....	1
27	2	....	....	....	....	....	....	....	1	1	1	....	3	11
3	....	....	....	....	....	....	....	1	1	....	2	....	15	8
4	....	....	....	....	....	....	....	....	1	....	....	....	20	7
5	5	....	....	....	....	1	....	....	1	....	1	....	13	....
6	25	4	....	....	1	1	....	1	....	....	11	1	24	1
66	12	1	....	....	1	....	....	....	....	....	3	....	6	....
7	18	9	1	1	1	2	....	1	11	3	8	1	163	22
8	....	....	1	....	....	....	....	....	1	....	1	....	4	1
9	110	12	7	....	3	15	20	13	24	6	163	4	17	5
94-95-96	82	18	4	1	11	8	7	....	1	....	22	1	5	....
TOTAL:	256	44	13	2	19	27	27	21	69	23	241	8	399	160 = 1309



APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY Y

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	...	...	...	...	2	42	96	16	...	...	66	...	4
2	...	...	...	...	...	1	6	13	6	...	1	11	...	2
25	...	...	...	...	1	...	2	10	6	...	1	8	1	3
26	...	...	...	...	...	...	1	...	...	...	...	...	...	...
27	...	...	1	...	...	...	5	5	1	...	...	...	...	...
3	2	1	...	...	...	1	51	50	17	3	2	55	...	7
4	42	6	2	1	5	51	4	9	7	...	40	44	6	...
5	96	13	10	...	5	50	9	...	...	...	...	7	...	1
6	16	6	6	...	1	17	7	...	...	...	...	4	...	...
66	...	...	...	...	...	3	...	...	...	...	...	...	...	...
7	...	1	1	...	...	2	40	...	...	...	...	9	2	...
8	66	11	8	...	...	55	44	7	4	...	9	17	2	3
9	...	...	1	...	...	...	6	...	...	...	2	2	...	...
94-95-96	4	2	3	...	...	7	...	1	...	...	...	3	...	...
TOTAL:	226	40	32	1	12	189	217	191	57	3	55	226	11	20 = 1280

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY Z

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	1	...	...	1	...	14	55	2	3	3	63	1	1
2	1	...	...	...	...	1	2	9	...	...	...	8	...	...
25	...	...	...	...	...	1	...	1	...	...	...	...	...	...
26	...	...	...	...	...	...	2	...	...	...	...	...	...	...
27	1	...	...	...	...	...	...	4	...	...	...	4	...	1
3	...	1	1	...	...	2	14	34	4	...	1	73	...	3
4	14	2	...	2	...	14	1	1	2	...	35	12	2	3
5	55	9	1	...	4	34	1	...	...	...	16	5	2	...
6	2	...	...	...	...	4	2	...	...	...	...	2	...	...
66	3	...	...	...	...	...	...	...	...	...	...	...	...	...
7	3	...	...	...	...	1	35	16	...	...	...	20	...	...
8	63	8	...	...	4	73	12	5	2	...	20	27	3	4
9	1	...	...	...	...	...	2	2	...	...	...	3	...	...
94-95-96	1	...	...	...	1	3	3	...	...	...	...	4	...	...
TOTAL:	144	21	2	2	10	133	88	127	10	3	75	221	8	12 = 856

APPENDIX V  
 SAN FRANCISCO ORIGIN - DESTINATION STUDY  
 MOVEMENTS BETWEEN ZONES BY GATEWAYS  
 GATEWAY AA

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	....	....	2	20	....	....	....	....	....	....
2	....	....	....	....	....	....	1	5	....	....	....	....	....	....
25	....	....	....	....	....	....	....	1	1	....	....	....	....	....
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....
27	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3	....	....	....	....	....	....	....	3	....	....	....	....	....	....
4	2	1	....	....	....	....	....	5	....	....	....	....	....	1
5	20	5	1	....	3	5	5	1	....	1	5	47	....	2
6	....	....	1	....	....	....	5	....	....	....	....	3	....	....
66	....	....	....	....	....	....	....	1	....	....	....	1	....	....
7	....	....	....	....	....	....	....	5	....	....	....	1	....	....
8	....	....	....	....	....	....	11	47	3	1	1	1	....	....
9	....	....	....	....	....	....	....	....	....	....	....	....	....	....
94-95-96	....	....	....	....	....	1	....	2	....	....	....	....	....	....
TOTAL:	22	6	2	....	3	6	24	95	9	2	6	64	....	3 = 242

APPENDIX V  
 SAN FRANCISCO ORIGIN - DESTINATION STUDY  
 MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY BB

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	....	....	....	41	....	....	....	....	....	....
2	....	....	....	....	....	....	....	2	....	....	....	....	....	....
25	....	....	....	....	....	....	....	....	....	....	....	....	....	....
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....
27	....	....	....	....	....	....	....	1	....	....	....	....	....	....
3	....	....	....	....	....	....	3	12	1	....	....	....	....	....
4	....	....	....	....	....	3	....	....	....	....	10	1	....	....
5	41	2	....	....	1	12	....	1	....	....	29	24	1	....
6	....	....	....	....	....	1	....	....	....	....	....	3	....	....
66	....	....	....	....	....	....	....	....	....	....	....	....	....	....
7	....	....	....	....	....	....	10	29	....	....	....	....	....	....
8	....	....	....	....	....	....	1	24	3	....	....	....	....	....
9	....	....	....	....	....	....	....	1	....	....	....	....	....	....
94-95-96	....	....	....	....	....	....	....	....	....	....	....	....	....	....
TOTAL:	41	2	....	....	1	16	14	111	4	....	39	28	1	257

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY CC

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	....	....	....	14	7	....	....	1	....	....
2	....	....	....	....	....	....	....	....	....	....	....	....	....	....
25	....	....	....	....	....	....	....	....	....	....	....	....	....	....
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....
27	....	....	....	....	....	....	....	....	....	....	....	1	....	....
3	....	....	....	....	....	....	....	5	2	....	....	....	....	....
4	....	....	....	....	....	....	....	....	....	....	17	....	....	....
5	14	....	....	....	....	5	....	1	....	....	81	3	2	1
6	7	....	....	....	....	2	....	....	....	....	60	2	5	1
66	....	....	....	....	....	....	....	....	....	....	....	1	....	....
7	....	....	....	....	....	....	17	81	60	....	2	6	....	8
8	1	....	....	....	1	....	....	3	2	1	6	....	....	....
9	....	....	....	....	....	....	....	2	5	....	....	....	....	....
94-95-96	....	....	....	....	....	....	....	1	1	....	8	....	....	....
TOTAL:	22	....	....	....	1	7	17	107	77	1	174	14	7	10 = 437

APPENDIX V  
 SAN FRANCISCO ORIGIN - DESTINATION STUDY  
 MOVEMENTS BETWEEN ZONES BY GATEWAYS

GATEWAY DD

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	....	....	3	42	53	1	....	....	....	2
2	....	....	....	....	....	....	....	4	8	....	....	....	....	2
25	....	....	....	....	....	....	....	1	2	....	....	....	....	....
26	....	....	....	....	....	....	....	....	....	....	....	....	....	....
27	....	....	....	....	....	....	....	....	....	....	....	....	....	....
3	....	....	....	....	....	....	1	11	15	....	1	....	....	3
4	3	....	....	....	....	1	....	....	1	....	4	....	....	....
5	42	4	1	....	....	11	....	....	1	....	35	4	....	....
6	53	8	2	....	....	15	1	1	....	....	24	3	1	....
66	1	....	....	....	....	....	....	....	....	....	....	....	....	....
7	....	....	....	....	....	1	4	35	24	....	1	5	....	5
8	....	....	....	....	....	....	....	4	3	....	5	....	....	....
9	....	....	....	....	....	....	....	....	1	....	....	....	....	....
94-95-96	2	2	....	....	....	3	....	....	....	....	5	....	....	....
TOTAL:	101	14	3	....	....	31	9	98	108	1	75	12	1	12 = 465



APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY EE

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	...	...	...	...	...	...	1	...	2	...	...	...	25	4
2	...	...	...	...	...	...	...	...	...	...	...	...	1	...
25	...	...	...	...	...	...	...	...	...	...	...	...	...	...
26	...	...	...	...	...	...	...	...	...	...	...	...	...	...
27	...	...	...	...	...	...	...	...	1	...	...	...	...	...
3	...	...	...	...	...	...	...	...	...	...	...	...	5	...
4	1	...	...	...	...	...	...	...	...	...	...	...	6	1
5	...	...	...	...	...	...	...	...	...	...	...	...	7	1
6	2	...	...	...	1	...	...	...	7	3	8	...	105	8
66	...	...	...	...	...	...	...	...	3	...	3	...	14	1
7	...	...	...	...	...	...	...	4	8	3	...	...	29	6
8	...	...	...	...	...	...	...	...	...	...	...	...	2	...
9	25	1	...	...	...	5	6	7	105	14	29	2	5	6
94-95-96	4	...	...	...	...	...	1	1	8	1	6	...	6	...
TOTAL:	32	1	...	...	1	5	8	12	134	21	50	2	205	27 = 498

APPENDIX V  
SAN FRANCISCO ORIGIN - DESTINATION STUDY  
MOVEMENTS BETWEEN ZONES BY GATEWAYS  
GATEWAY FF

Origin or Destination Zones	1	2	25	26	27	3	4	5	6	66	7	8	9	94-95-96
1	....	....	....	....	1	....	....	....	....	38	....	....	62	34
2	....	....	....	1	....	....	....	....	....	3	....	....	12	5
25	....	....	....	....	....	....	....	....	....	....	....	....	....	1
26	....	1	....	....	....	....	....	....	....	....	....	....	....	....
27	1	....	....	....	....	....	....	....	....	....	....	....	....	....
3	....	....	....	....	....	....	....	....	....	....	....	....	....	....
4	....	....	....	....	....	....	....	....	....	1	....	....	3	....
5	....	....	....	....	....	....	....	....	....	....	....	....	....	....
6	....	....	....	....	....	....	....	....	....	....	....	....	1	....
66	38	3	....	....	....	....	1	....	....	....	3	....	4	....
7	....	....	....	....	....	....	....	....	....	3	....	....	19	....
8	....	....	....	....	....	....	....	....	....	....	....	....	1	....
9	62	12	....	....	....	3	7	....	1	4	19	1	26	8
94-95-96	34	5	1	....	....	....	1	....	....	....	....	....	8	....
TOTAL:	135	21	1	1	1	3	9	....	1	49	22	1	143	49 = 436

## APPENDIX V

## ORIGIN - DESTINATION STUDY OF SAN FRANCISCO - OAKLAND BAY BRIDGE

24-HOUR SAMPLE — APRIL 14, 1937

*Passenger Automobiles Only*

## TOTAL MOVEMENT TO AND FROM SAN FRANCISCO AND DISTRIBUTION BY RAMPS

*Origin or Destination Zones in San Francisco**Distribution by Ramp*

	11	12	13	14	15	16	17	18	19	21	22
Number of Vehicles Sampled.....	798	790	384	362	710	154	186	285	236	324	85
Per Cent of Vehicles Sampled.....	11.78	11.67	5.67	5.34	10.48	2.27	2.75	4.21	3.48	4.78	1.26
Per Cent Using Fifth & Harrison.....	49.75	6.58	7.29	67.68	43.80	90.91	90.86	66.67	86.02	6.17	7.06
Per Cent Using First & Clementina.....	50.25	93.42	92.71	32.32	56.20	9.09	9.14	33.33	13.98	93.83	92.94

	23	24	25	31	32	41	42	43	51	52	53
Number of Vehicles Sampled.....	155	115	201	253	107	52	143	138	10	125	11
Per Cent of Vehicles Sampled.....	2.29	1.70	2.97	3.74	1.58	.77	2.11	2.04	.15	1.85	.16
Per Cent Using Fifth & Harrison.....	23.87	53.91	36.32	70.75	88.78	48.08	75.52	68.84	100.00	96.00	81.82
Per Cent Using First & Clementina.....	76.13	46.09	63.68	29.25	11.22	51.92	24.48	31.16	....	4.00	18.18

	54	55	61	62	63	64	65	71	72	73	74
Number of Vehicles Sampled.....	22	7	54	22	43	7	21	209	22	50	104
Per Cent of Vehicles Sampled.....	32	10	80	32	63	10	31	3.09	32	74	1.54
Per Cent Using Fifth & Harrison.....	100.00	57.14	94.44	95.45	88.37	100.00	95.24	90.91	90.91	94.00	92.31
Per Cent Using First & Clementina.....	....	42.86	5.56	4.55	11.63	....	4.76	9.09	9.09	6.00	7.69

	81	82	91	92	93	Marin Co. North	Daly City and Colma	South San Francisco	San Mateo County	South San Mateo	Total Sample
Number of Vehicles Sampled.....	82	12	99	39	20	38	17	28	150	102	6,772
Per Cent of Vehicles Sampled.....	1.21	.18	1.46	.58	.29	.56	.25	.41	2.22	1.52	100.00
Per Cent Using Fifth & Harrison.....	82.93	83.33	69.70	58.97	90.00	44.74	88.24	78.57	85.33	74.51	52.22
Per Cent Using First & Clementina.....	17.07	16.67	30.30	41.03	10.00	55.26	11.76	21.43	14.67	25.49	47.78

# ORIGIN - DESTINATION STUDY OF SAN FRANCISCO - OAKLAND BAY BRIDGE 24-HOUR SAMPLE - APRIL 14, 1937

*Passenger Automobiles Only*

## DISTRIBUTION BY RAMP AND ZONE OF EASTBOUND VEHICLES

*Origin Zones in San Francisco*

<i>Distribution by Ramp</i>	11	12	13	14	15	16	17	18	19	21	22
Number Sampled Using Fifth & Bryant	192	31	12	118	154	72	78	105	99	5	4
Per Cent Sampled Using Fifth & Bryant	49.23	8.40	6.94	67.04	43.75	90.00	88.64	66.04	86.09	3.60	10.81
Number Sampled Using Fremont	198	338	161	58	198	8	10	54	16	134	33
Per Cent Sampled Using Fremont	50.77	91.60	93.06	32.96	56.25	10.00	11.36	33.96	13.91	96.40	80.19
Per Cent Eastbound Vehicles Sampled	11.72	11.09	5.20	5.29	10.58	2.40	2.64	4.78	3.46	4.18	1.11
Number Sampled Using Fifth & Bryant	25	31	36	96	54	16	55	53	3	60	2
Per Cent Sampled Using Fifth & Bryant	32.47	52.54	37.11	71.11	88.52	55.17	80.88	72.60	100.00	96.77	50.00
Number Sampled Using Fremont	52	28	61	39	7	13	13	20	...	2	2
Per Cent Sampled Using Fremont	67.53	47.46	62.89	28.89	11.48	44.83	19.12	27.40	...	3.23	50.00
Per Cent Eastbound Vehicles Sampled	2.32	1.77	2.92	4.06	1.83	.87	2.04	2.19	.09	1.86	.12
Number Sampled Using Fifth & Bryant	16	4	26	10	20	3	9	100	10	21	44
Per Cent Sampled Using Fifth & Bryant	100.00	80.00	89.65	100.00	90.91	100.00	90.00	92.59	90.91	91.30	89.80
Number Sampled Using Fremont	...	1	3	...	2	...	1	8	1	2	5
Per Cent Sampled Using Fremont	...	20.00	10.35	...	9.09	...	10.00	7.41	9.09	8.70	10.20
Per Cent Eastbound Vehicles Sampled	.48	.15	.87	.30	.66	.09	.30	3.26	.33	.69	1.47
<hr/>											
	81	82	91	92	93	Marin Co. and North		San Francisco	San Mateo County	San Mateo	Total Sample
Number Sampled Using Fifth & Bryant	33	3	36	13	11	9	8	12	64	45	1,798
Per Cent Sampled Using Fifth & Bryant	78.57	75.00	76.60	61.90	100.00	60.00	88.89	80.00	86.49	77.59	54.03
Number Sampled Using Fremont	9	1	11	8	...	6	1	3	10	13	1,530
Per Cent Sampled Using Fremont	21.43	25.00	23.40	38.10	...	40.00	11.11	20.00	13.51	22.41	45.97
Per Cent Eastbound Vehicles Sampled	1.26	.12	1.41	.63	.33	.45	.27	.45	2.22	1.74	100.00

## APPENDIX V

ORIGIN - DESTINATION STUDY OF SAN FRANCISCO - OAKLAND BAY BRIDGE  
 24-HOUR SAMPLE - APRIL 14, 1937  
*Passenger Automobiles Only*

DISTRIBUTION BY RAMP AND ZONE OF WESTBOUND VEHICLES  
*Destination Zones in San Francisco*

*Distribution by Ramp*

	11	12	13	14	15	16	17	18	19	21	22
Number Sampled Using Fifth & Harrison.....	205	21	16	127	157	68	91	85	104	15	22
Per Cent Sampled Using Fifth & Harrison.....	50.00	4.99	7.58	68.28	43.85	91.89	92.86	67.46	85.95	8.11	4.17
Number Sampled Using First & Clementina.....	203	400	195	59	201	6	7	41	17	170	46
Per Cent Sampled Using First & Clementina.....	50.00	95.01	92.42	31.72	56.15	8.11	7.14	32.54	14.05	91.89	95.83
Per Cent of Westbound Vehicles Sampled.....	11.85	12.22	6.13	5.40	10.39	2.15	2.85	3.66	3.51	5.37	1.39
Number Sampled Using Fifth & Harrison.....	23	24	25	31	32	41	42	43	51	52	55
Per Cent Sampled Using Fifth & Harrison.....	12	31	37	83	41	9	53	42	7	60	7
Number Sampled Using First & Clementina.....	15.38	55.36	35.58	70.34	89.13	39.13	70.67	64.62	100.00	95.24	100.00
Per Cent Sampled Using First & Clementina.....	66	25	67	35	5	14	22	23	....	8	....
Number Sampled Using Fifth & Harrison.....	84.62	44.64	64.42	29.66	10.87	60.87	29.33	35.38	....	4.76	....
Per Cent of Westbound Vehicles Sampled.....	2.26	1.63	3.02	3.43	1.33	.68	2.18	1.89	.20	1.83	.20
Number Sampled Using Fifth & Harrison.....	54	55	61	62	63	64	65	71	72	73	74
Per Cent Sampled Using Fifth & Harrison.....	6	....	25	11	18	4	11	90	10	26	52
Number Sampled Using First & Clementina.....	100.00	100.00	91.67	85.71	100.00	100.00	100.00	89.11	90.91	96.30	94.55
Per Cent Sampled Using First & Clementina.....	....	2	....	1	3	....	....	11	1	1	3
Number Sampled Using Fifth & Harrison.....	100.00	....	8.33	14.29	....	....	....	10.89	9.09	3.70	5.45
Per Cent of Westbound Vehicles Sampled.....	.17	.06	.73	.35	.61	.12	.32	2.93	.32	.78	1.60
Number Sampled Using Fifth & Harrison.....	81	82	91	92	93	94	95	96	97	98	99
Per Cent Sampled Using Fifth & Harrison.....	35	7	33	10	7	8	7	10	64	31	1.738
Number Sampled Using First & Clementina.....	87.50	63.46	55.55	77.78	34.78	34.78	87.50	76.92	84.21	70.45	50.46
Per Cent Sampled Using First & Clementina.....	5	1	19	8	2	15	1	3	12	13	1.706
Number Sampled Using Fifth & Harrison.....	12.50	36.54	44.45	22.22	65.22	65.22	12.50	23.08	15.79	29.55	49.54
Per Cent of Westbound Vehicles Sampled.....	1.16	.23	1.51	.52	.26	.67	.23	.38	2.21	1.27	100.00

[illegible]





APPENDIX V  
ORIGIN - DESTINATION STUDY OF SAN FRANCISCO - OAKLAND BAY BRIDGE  
24-HOUR SAMPLE - APRIL 14, 1937  
Trucks Only

DISTRIBUTION BY RAMP AND ZONE OF WESTBOUND VEHICLES

*Destination Zones in San Francisco*

*Distribution by Ramp*

	11	12	13	14	15	16	17	18	19	21	22
Number Sampled Using Truck Ramp.....	7	2	11	23	16	13	5	2	....	16	2
Per Cent Sampled Using Truck Ramp.....	100.00	25.00	84.62	82.14	55.17	92.86	71.43	66.67	....	84.21	100.00
Number Sampled Using Fifth & Harrison.....	....	1	....	3	9	1	2	1	....	....	....
Per Cent Sampled Using Fifth & Harrison.....	....	12.50	....	10.71	31.03	7.14	28.57	33.33	100.00	....	....
Number Sampled Using First & Clementina.....	....	5	2	2	4	....	....	....	....	3	....
Per Cent Sampled Using First & Clementina.....	....	62.50	15.38	7.15	13.80	....	....	....	....	15.79	....
Per Cent of Westbound Vehicles Sampled.....	4.14	4.73	7.69	16.57	17.16	8.29	4.14	1.79	0.59	11.24	1.18
Number Sampled Using Truck Ramp.....	2	24	25	31	32	41	42	43	51	52	53
Per Cent Sampled Using Truck Ramp.....	100.00	....	100.00	80.00	100.00	....	....	....	....	....	....
Number Sampled Using Fifth & Harrison.....	....	....	....	1	....	....	2	....	....	....	1
Per Cent Sampled Using Fifth & Harrison.....	....	....	....	20.00	....	....	100.00	....	....	....	100.00
Number Sampled Using First & Clementina.....	....	2	....	....	....	....	....	....	....	....	....
Per Cent Sampled Using First & Clementina.....	....	100.00	....	....	....	....	....	....	....	....	....
Per Cent of Westbound Vehicles Sampled.....	1.18	1.18	0.59	2.96	1.18	....	1.18	....	....	....	0.59
Number Sampled Using Truck Ramp.....	54	55	61	62	63	64	65	71	72	73	74
Per Cent Sampled Using Truck Ramp.....	100.00	....	....	....	....	....	....	4	....	3	4
Number Sampled Using Fifth & Harrison.....	....	....	....	....	....	....	....	80.00	100.00	100.00	....
Per Cent Sampled Using Fifth & Harrison.....	....	....	....	....	....	....	....	1	....	....	....
Number Sampled Using First & Clementina.....	....	....	....	....	....	....	....	20.00	....	....	....
Per Cent Sampled Using First & Clementina.....	....	....	....	....	....	....	....	....	....	....	....
Per Cent of Westbound Vehicles Sampled.....	0.59	....	....	....	....	....	....	2.96	....	1.79	2.37
Number Sampled Using Truck Ramp.....	81	82	91	92	93	....	....	....	....	....	....
Per Cent Sampled Using Truck Ramp.....	....	....	5	....	....	....	....	1	....	1	127
Number Sampled Using Fifth & Harrison.....	....	....	100.00	....	....	....	....	100.00	100.00	100.00	75.15
Per Cent Sampled Using Fifth & Harrison.....	....	....	....	....	....	....	....	....	....	....	24
Number Sampled Using First & Clementina.....	....	....	....	....	100.00	....	....	....	....	....	14.20
Per Cent Sampled Using First & Clementina.....	....	....	....	....	....	....	....	....	....	....	18
Per Cent of Westbound Vehicles Sampled.....	....	....	2.96	....	0.59	....	....	0.59	1.18	0.59	100.00

## APPENDIX V

## ORIGIN - DESTINATION STUDY OF GOLDEN GATE BRIDGE

24-HOUR SAMPLE — JUNE 9, 1937

*Passenger Automobiles Only*

## DISTRIBUTION OF NORTHBOUND VEHICLES FROM SAN FRANCISCO ORIGINS

*Origin Zones in San Francisco*

	11	12	13	14	15	16	17	18	19	21	22
Number of Vehicles Sampled.....	84	65	26	115	55	6	4	46	24	33	4
Per Cent of Vehicles Sampled.....	7.30	5.65	2.26	10.00	4.78	0.52	0.35	4.00	2.09	2.87	0.35
Number of Vehicles Sampled.....	23	24	25	31	32	41	42	43	51	52	53
Per Cent of Vehicles Sampled.....	4.9	2.3	7.6	6.3	2.6	11	8.9	5.5	7	3.3	2
Number of Vehicles Sampled.....	4.26	2.00	6.61	5.48	2.26	0.96	7.74	4.78	0.61	2.87	0.17
Number of Vehicles Sampled.....	54	55	61	62	63	64	65	71	72	73	74
Per Cent of Vehicles Sampled.....	1.3	1	1.9	1	2.7	2	3	2.9	1.4	1.0	9
Number of Vehicles Sampled.....	1.13	0.09	1.65	0.09	2.35	0.17	0.26	2.52	1.22	0.87	0.78
Number of Vehicles Sampled.....	81	82	91	92	93	Daly City and Colma	South San Francisco	San Mateo County	South San Mateo	East Bay	Total Sampled
Number of Vehicles Sampled.....	24	1	3	3	1	4	2	24	64	...	1,150
Per Cent of Vehicles Sampled.....	2.08	0.09	0.26	0.26	0.09	0.35	0.17	2.08	5.58	...	100.00

APPENDIX V  
ORIGIN - DESTINATION STUDY OF GOLDEN GATE BRIDGE  
24-HOUR SAMPLE — JUNE 9, 1937  
*Passenger Automobiles Only*

TOTAL MOVEMENT TO AND FROM ZONES

*Origin or Destination Zones*

	11	12	13	14	15	16	17	18	19	21	22
Number of Vehicles Sampled.....	193	122	45	188	126	18	13	76	43	77	9
Per Cent of Vehicles Sampled.....	9.40	5.94	2.19	9.15	6.13	0.88	0.63	3.70	2.09	3.75	0.44
	23	24	25	31	32	41	42	43	51	52	53
Number of Vehicles Sampled.....	71	40	123	123	44	25	131	95	10	53	5
Per Cent of Vehicles Sampled.....	3.46	1.95	5.99	5.99	2.14	1.22	6.38	4.63	0.49	2.58	0.24
	54	55	61	62	63	64	65	71	72	73	74
Number of Vehicles Sampled.....	18	2	29	5	38	5	6	51	22	15	13
Per Cent of Vehicles Sampled.....	0.88	0.10	1.41	0.24	1.85	0.24	0.29	2.48	1.07	0.73	0.63
	81	82	91	92	93	Daly City and Colma	South San Francisco	San Mateo County	South of San Mateo	East Bay	Total Sampled
Number of Vehicles Sampled.....	38	1	7	7	4	9	2	38	113	1	2,054
Per Cent of Vehicles Sampled.....	1.85	0.05	0.34	0.34	0.19	0.44	0.10	1.85	5.50	0.05	100.00

DISTRIBUTION OF SOUTHBOUND VEHICLES TO SAN FRANCISCO DESTINATIONS

*Destination Zones in San Francisco*

	11	12	13	14	15	16	17	18	19	21	22
Number of Vehicles Sampled.....	109	57	19	73	71	12	9	30	19	44	5
Per Cent of Vehicles Sampled.....	12.06	6.31	2.10	8.08	7.86	1.33	1.00	3.32	2.10	4.87	0.55
	23	24	25	31	32	41	42	43	51	52	53
Number of Vehicles Sampled.....	22	17	47	60	18	14	42	40	3	20	3
Per Cent of Vehicles Sampled.....	2.43	1.88	5.22	6.64	1.99	1.55	4.64	4.42	0.33	2.21	0.33
	54	55	61	62	63	64	65	71	72	73	74
Number of Vehicles Sampled.....	5	1	10	4	11	3	3	22	8	5	4
Per Cent of Vehicles Sampled.....	0.55	0.11	1.11	0.44	1.22	0.33	0.33	2.43	0.88	0.55	0.44
	81	82	91	92	93	Daly City and Colma	South San Francisco	San Mateo County	South of San Mateo	East Bay	Total Sampled
Number of Vehicles Sampled.....	14	...	4	4	3	5	...	14	49	1	904
Per Cent of Vehicles Sampled.....	1.55	...	0.44	0.44	0.33	0.55	...	1.55	5.42	0.11	100.00

APPENDIX VI

P A R K I N G

*in the*

CENTRAL BUSINESS DISTRICT

P A R K I N G   A R E A

## APPENDIX VI

SUMMARY OF ANGLE AND DOUBLE PARKING IN THE CENTRAL BUSINESS DISTRICT PARKING AREA  
STREETS NORTH OF MARKET STREET

Street Name	Between Street and Street	Total Parked	Angle Parking	% Angle Parking	Double Parking	% Double Parking	Angle & Double Parking Total	Per Cent
Clay	.....Davis	1,057	151	14.30	24	2.27	175	16.55
Commercial	.....Davis	740	51	6.89	12	1.62	63	8.51
Sacramento	.....Davis	932	28	3.01	11	1.18	39	4.19
California	.....Davis	1,805	112	6.20	194	10.70	306	16.95
Pine	.....Davis	2,089	135	7.41	191	9.14	346	16.55
Bush	.....Battery	2,634	220	8.37	81	3.08	301	11.40
Sutter	.....Sansone	2,470	147	5.95	13	0.526	160	6.48
Post	.....Montgomery	2,309	142	6.15	43	1.86	185	8.00
Maiden Lane	.....Kearny	582	327	56.20	4	0.687	331	56.90
O'Farrell	.....Kearny	1,745	44	2.52	3	0.172	47	2.69
Ellis	.....Grant Ave.	1,549	97	6.26	10	0.645	107	6.90
Eddy	.....Stockton	1,319	103	7.81	4	0.304	107	8.12
Turk	.....Powell	934	52	5.56	81	8.66	133	14.20
Golden Gate Ave.	.....Mason	668	29	4.34	94	14.10	123	18.40
Market	.....Taylor	330	13	3.94	17	5.15	30	9.10
Davis	.....Davis	1,569	87	5.55	77	4.91	164	10.45
Front	.....Pine	559	124	22.20	51	9.10	175	31.30
Battery	.....Market	711	115	16.20	100	14.05	215	30.20
Sansone	.....Market	678	28	4.13	86	12.70	114	16.80
Montgomery	.....Market	1,161	295	25.40	28	2.41	323	27.80
Kearny	.....Market	1,295	42	3.24	8	0.619	50	3.86
Grant Ave.	.....Market	1,190	52	4.37	50	4.20	102	8.55
Waverly Place	.....Market	1,414	53	3.74	35	2.48	88	6.22
Stockton	.....Sacramento	75	22	29.3	0	0.00	22	29.30
Powell	.....Market	978	32	3.27	0	0.00	32	3.27
Anna Lane	.....Eddy	1,423	89	6.26	16	1.125	105	7.38
Mason	.....Market	123	28	22.80	2	1.625	30	24.40
Taylor	.....Market	1,514	205	13.5	90	5.94	295	19.50
Jones	.....Market	1,342	72	5.37	83	6.19	155	11.55
Jones	.....Market	1,491	92	6.17	59	3.96	151	10.13
TOTAL		36,686	3,007	8.18	1,467	4.00	4,474	12.18



## APPENDIX VI

SUMMARY OF ANGLE AND DOUBLE PARKING IN THE CENTRAL BUSINESS DISTRICT PARKING AREA  
STREETS SOUTH OF MARKET STREET

Street Name	Between Street and Street	Total Parked	Angle Parking	% Angle Parking	Double Parking	% Double Parking	Angle & Double Total	Parking Per Cent
Spear	Market	685	231	33.72	80	11.68	311	45.40
Main	Market	695	151	21.73	127	18.27	278	40.00
Beale	Market	616	57	9.25	73	11.85	130	21.10
Fremont	Market	1,016	181	17.82	104	10.23	285	28.05
First	Market	893	75	8.40	102	11.42	177	19.82
Ecker	Market	70	1	1.43	1	1.43	19	27.14
Anthony	Off Mission near 2nd	55	27	49.09	1	1.82	28	50.91
Second	Mission	772	63	8.16	116	15.03	179	23.19
New Montgomery	Market	737	29	3.93	16	2.17	45	6.10
Hawthorne	Folsom	123	28	22.76	10	8.13	38	30.89
Annie	Market	200	94	47.00	1	0.50	95	47.50
Third	Market	1,175	56	4.76	137	11.65	193	16.41
Fourth	Market	939	38	4.05	106	11.29	144	15.34
Fifth	Market	1,249	195	15.61	209	16.73	404	32.34
Mint	Off Mission bet. 5th & 6th	56	6	10.71	3	5.36	9	16.07
Mary	Mission	62	61	98.39	1	1.61	62	100.00
Sixth	Market	1,127	61	5.41	95	8.43	156	13.84
Harriet	Howard	110	21	19.09	21	19.09	42	38.18
Russ	Howard	190	75	39.47	22	11.58	97	51.05
Moss	Howard	103	62	60.19	1	0.97	63	61.16
Seventh	Market	1,042	88	8.45	146	14.01	234	22.46
Seventh	Spear	1,955	95	4.86	50	2.56	145	7.42
Stevenson	Seventh	1,908	576	30.19	5	0.26	581	30.45
Jessie	First	1,312	610	46.49	42	3.20	652	49.69
Mission	Spear	3,380	195	4.90	130	3.27	325	8.17
Minna	First	1,282	360	28.08	7	0.55	367	28.63
Natoma	First	890	448	50.34	11	1.23	459	51.57
Howard	Spear	2,812	247	8.78	220	7.82	467	16.60
Tehama	First	636	136	21.38	5	0.79	141	22.17
Clementina	Sixth	418	160	38.28	11	2.63	171	40.91
Folsom	Spear	938	144	15.35	148	15.78	292	31.13
TOTAL		28,046	4,588	16.36	2,001	7.13	6,589	23.49

## APPENDIX VI

PARKING TIME CHARACTERISTICS  
OF ALL VEHICLES PARKED*in*  
THE CENTRAL BUSINESS DISTRICT PARKING AREA

<i>Length of Time Parked</i>	<i>Passenger Automobiles</i>	<i>Trucks</i>	<i>Taxicabs</i>	<i>Total Vehicles</i>	<i>Car Hours</i>
00 Min. to 20 Min.....	18,934	8,883	1,018	28,835	9,612
20 Min. to 40 Min.....	9,401	1,837	246	11,484	7,656
40 Min. to 1 Hour.....	5,083	812	65	6,680	6,680
1:00 to 1:20.....	3,562	406	29	3,997	5,329
1:20 to 1:40.....	2,324	238	14	2,576	4,293
1:40 to 2:00.....	1,600	181	6	1,787	3,574
2:00 to 2:20.....	1,177	116	3	1,296	3,024
2:20 to 2:40.....	903	89	4	996	2,656
2:40 to 3:00.....	739	51	2	792	2,376
3:00 to 3:20.....	528	50	1	579	1,930
3:20 to 3:40.....	499	40	5	544	1,995
3:40 to 4:00.....	402	32	....	434	1,736
4:00 to 4:20.....	358	30	....	388	1,681
4:20 to 4:40.....	308	24	2	334	1,559
4:40 to 5:00.....	270	21	1	292	1,460
5:00 to 5:20.....	222	16	....	238	1,269
5:20 to 5:40.....	171	11	2	184	1,043
5:40 to 6:00.....	186	13	....	199	1,194
6:00 to 6:20.....	141	10	....	151	956
6:20 to 6:40.....	112	6	....	118	787
6:40 to 7:00.....	113	5	....	118	826
7:00 to 7:20.....	98	11	1	110	807
7:20 to 7:40.....	100	3	1	104	797
7:40 to 8:00.....	109	5	....	114	912
8:00 to 8:20.....	145	6	....	151	1,258
8:20 to 8:40.....	200	6	....	206	1,785
8:40 to 9:00.....	241	4	....	245	2,205
9:00 to 9:20.....	238	2	....	240	2,240
9:20 to 9:40.....	167	3	....	170	1,643
9:40 to 10:00.....	108	5	....	113	1,130
10:00 to 10:20.....	72	1	1	74	765
10:20 to 10:40.....	52	1	....	53	565
10:40 to 11:00.....	41	2	....	43	473
11:00 to 11:20.....	23	....	....	23	261
11:20 to 11:40.....	12	1	....	13	152
11:40 to 12:00.....	44	4	1	49	588
TOTAL.....	49,403	12,925	1,402	63,730	

## APPENDIX VI

PARKING TIME CHARACTERISTICS  
IN TWENTY-MINUTE RESTRICTED PARKING LOCALITIES  
*of*  
THE CENTRAL BUSINESS DISTRICT PARKING AREA

<i>Length of Time Parked</i>	<i>Passenger Automobiles</i>	<i>Car Hours</i>	<i>Trucks</i>	<i>Taxicabs</i>	<i>Total Vehicles</i>
00 Min. to 20 Min.....	1,783	839	575	158	2,516
20 Min. to 40 Min.....	896	680	93	31	1,020
40 Min. to 1 Hour.....	565	595	28	2	595
1:00 to 1:20.....	336	469	16	....	352
1:20 to 1:40.....	198	345	7	2	207
1:40 to 2:00.....	149	312	7	....	156
2:00 to 2:20.....	94	224	2	....	96
2:20 to 2:40.....	70	192	2	....	72
2:40 to 3:00.....	47	144	1	....	48
3:00 to 3:20.....	34	133	6	....	40
3:20 to 3:40.....	30	110	....	....	30
3:40 to 4:00.....	26	108	1	....	27
4:00 to 4:20.....	26	113	....	....	26
4:20 to 4:40.....	13	61	....	....	13
4:40 to 5:00.....	15	75	....	....	15
5:00 to 5:20.....	11	59	....	....	11
5:20 to 5:40.....	7	40	....	....	7
5:40 to 6:00.....	12	72	....	....	12
6:00 to 6:20.....	8	51	....	....	8
6:20 to 6:40.....	1	13	1	....	2
6:40 to 7:00.....	2	14	....	....	2
7:00 to 7:20.....	5	37	....	....	5
7:20 to 7:40.....	5	38	....	....	5
7:40 to 8:00.....	2	16	....	....	2
8:00 to 8:20.....	7	58	....	....	7
8:20 to 8:40.....	4	35	....	....	4
8:40 to 9:00.....	2	18	....	....	2
9:00 to 9:20.....	3	28	....	....	3
9:20 to 9:40.....	3	29	....	....	3
9:40 to 10:00.....	3	30	....	....	3
10:00 to 10:20.....	4	41	....	....	4
10:20 to 10:40.....	2	21	....	....	2
10:40 to 11:00.....	3	33	....	....	3
11:00 to 11:20.....	....	....	....	....	....
11:20 to 11:40.....	....	....	....	....	....
11:40 to 12:00.....	....	....	....	....	....
TOTAL.....	4,366		739	193	5,298

## APPENDIX VI

PARKING TIME CHARACTERISTICS  
IN FORTY-MINUTE RESTRICTED PARKING LOCALITIES  
*of*  
THE CENTRAL BUSINESS DISTRICT PARKING AREA

<i>Length of Time Parked</i>	<i>Passenger Automobiles</i>	<i>Trucks</i>	<i>Taxicabs</i>	<i>Total Vehicles</i>	<i>Car Hours</i>
00 Min. to 20 Min.....	8,495	3,427	639	12,561	4,187
20 Min. to 40 Min.....	4,202	635	157	4,975	3,317
40 Min. to 1 Hour.....	2,687	230	44	2,946	2,946
1:00 to 1:20.....	1,542	116	20	1,672	2,229
1:20 to 1:40.....	972	55	7	1,033	1,722
1:40 to 2:00.....	658	43	4	703	1,406
2:00 to 2:20.....	445	36	....	480	1,120
2:20 to 2:40.....	358	23	3	384	1,024
2:40 to 3:00.....	292	11	1	304	912
3:00 to 3:20.....	204	12	1	217	723
3:20 to 3:40.....	175	9	3	187	686
3:40 to 4:00.....	126	1	....	128	512
4:00 to 4:20.....	96	8	....	104	451
4:20 to 4:40.....	103	4	1	80	504
4:40 to 5:00.....	75	4	1	108	400
5:00 to 5:20.....	66	4	....	70	373
5:20 to 5:40.....	60	4	2	66	374
5:40 to 6:00.....	54	2	....	57	342
6:00 to 6:20.....	57	3	....	59	374
6:20 to 6:40.....	37	1	....	39	260
6:40 to 7:00.....	29	3	....	30	210
7:00 to 7:20.....	29	1	....	30	220
7:20 to 7:40.....	19	....	1	20	153
7:40 to 8:00.....	26	1	....	27	216
8:00 to 8:20.....	32	....	....	32	267
8:20 to 8:40.....	34	3	....	37	321
8:40 to 9:00.....	30	....	....	30	270
9:00 to 9:20.....	23	....	....	23	215
9:20 to 9:40.....	16	....	....	16	155
9:40 to 10:00.....	21	....	....	21	210
10:00 to 10:20.....	14	....	1	15	155
10:20 to 10:40.....	13	1	....	14	149
10:40 to 11:00.....	6	....	....	6	66
11:00 to 11:20.....	3	....	....	3	34
11:20 to 11:40.....	2	....	....	2	23
11:40 to 12:00.....	7	1	1	9	108
TOTAL.....	21,008	4,638	886	26,488	

## APPENDIX VI

PARKING TIME CHARACTERISTICS  
IN SIXTY-MINUTE RESTRICTED PARKING LOCALITIES  
*of*  
THE CENTRAL BUSINESS DISTRICT PARKING AREA

<i>Length of Time Parked</i>	<i>Passenger Automobiles</i>	<i>Trucks</i>	<i>Taxicabs</i>	<i>Total Vehicles</i>	<i>Car Hours</i>
00 Min. to 20 Min.....	6,524	3,082	172	9,778	3,259
20 Min. to 40 Min.....	3,402	672	50	4,124	2,749
40 Min. to 1 Hour.....	2,005	376	17	2,398	2,398
1:00 to 1:20.....	1,326	186	8	1,520	2,027
1:20 to 1:40.....	894	105	4	1,003	1,672
1:40 to 2:00.....	623	86	2	711	1,422
2:00 to 2:20.....	485	55	3	543	1,267
2:20 to 2:40.....	348	45	1	394	1,051
2:40 to 3:00.....	301	23	1	325	975
3:00 to 3:20.....	217	19	....	236	787
3:20 to 3:40.....	219	21	1	241	884
3:40 to 4:00.....	180	22	....	202	808
4:00 to 4:20.....	180	12	....	192	832
4:20 to 4:40.....	132	11	....	136	681
4:40 to 5:00.....	125	14	....	146	680
5:00 to 5:20.....	98	8	....	106	565
5:20 to 5:40.....	67	4	....	71	402
5:40 to 6:00.....	78	8	....	86	516
6:00 to 6:20.....	48	5	....	53	336
6:20 to 6:40.....	47	4	....	51	340
6:40 to 7:00.....	49	2	....	51	357
7:00 to 7:20.....	35	5	1	41	301
7:20 to 7:40.....	40	3	....	43	330
7:40 to 8:00.....	42	1	....	43	344
8:00 to 8:20.....	61	3	....	64	533
8:20 to 8:40.....	69	3	....	72	624
8:40 to 9:00.....	101	2	....	103	927
9:00 to 9:20.....	93	1	....	94	877
9:20 to 9:40.....	57	2	....	59	570
9:40 to 10:00.....	37	1	....	38	380
10:00 to 10:20.....	23	....	....	23	238
10:20 to 10:40.....	23	....	....	23	246
10:40 to 11:00.....	12	1	....	13	143
11:00 to 11:20.....	6	....	....	6	68
11:20 to 11:40.....	4	1	....	5	58
11:40 to 12:00.....	18	3	....	21	252
TOTAL.....	17,969	4,786	260	23,015	

## APPENDIX VI

PARKING TIME CHARACTERISTICS  
IN RESTRICTED NO-PARKING LOCALITIES*of*  
THE CENTRAL BUSINESS DISTRICT PARKING AREA

<i>Length of Time Parked</i>	<i>Passenger Automobiles</i>	<i>Trucks</i>	<i>Taxicabs</i>	<i>Total Vehicles</i>	<i>Car Hours</i>
00 Min. to 20 Min.....	1,344	1,248	17	2,609	870
20 Min. to 40 Min.....	547	282	2	831	554
40 Min. to 1 Hour.....	286	103	1	390	390
1:00 to 1:20.....	174	46	....	220	293
1:20 to 1:40.....	117	38	....	155	258
1:40 to 2:00.....	72	27	....	99	198
2:00 to 2:20.....	65	12	....	77	180
2:20 to 2:40.....	53	10	....	63	168
2:40 to 3:00.....	26	6	....	32	96
3:00 to 3:20.....	26	9	....	35	117
3:20 to 3:40.....	19	4	....	23	84
3:40 to 4:00.....	14	....	....	14	56
4:00 to 4:20.....	16	4	....	20	87
4:20 to 4:40.....	9	3	....	12	56
4:40 to 5:00.....	10	1	....	11	55
5:00 to 5:20.....	9	2	....	11	59
5:20 to 5:40.....	12	2	....	14	79
5:40 to 6:00.....	13	....	....	13	78
6:00 to 6:20.....	5	2	....	7	44
6:20 to 6:40.....	10	....	....	10	67
6:40 to 7:00.....	5	....	....	5	35
7:00 to 7:20.....	6	....	....	6	44
7:20 to 7:40.....	5	....	....	5	38
7:40 to 8:00.....	6	1	....	7	56
8:00 to 8:20.....	6	....	....	6	50
8:20 to 8:40.....	6	....	....	6	52
8:40 to 9:00.....	8	1	....	9	81
9:00 to 9:20.....	6	....	....	6	56
9:20 to 9:40.....	8	....	....	8	77
9:40 to 10:00.....	6	....	....	6	60
10:00 to 10:20.....	3	....	....	3	31
10:20 to 10:40.....	1	....	....	1	11
10:40 to 11:00.....	1	....	....	1	11
11:00 to 11:20.....	....	....	....	....	....
11:20 to 11:40.....	....	....	....	....	....
11:40 to 12:00.....	2	....	....	2	24
TOTAL.....	2,896	1,801	20	4,717	



## APPENDIX VI

PARKING TIME CHARACTERISTICS  
IN NON-RESTRICTED PARKING LOCALITIES  
*of*  
THE CENTRAL BUSINESS DISTRICT PARKING AREA

<i>Length of Time Parked</i>	<i>Passenger Automobiles</i>	<i>Trucks</i>	<i>Taxicabs</i>	<i>Total Vehicles</i>	<i>Car Hours</i>
00 Min. to 20 Min.....	788	551	32	1,371	457
20 Min. to 40 Min.....	354	155	6	515	343
40 Min. to 1 Hour.....	260	75	1	336	336
1:00 to 1:20.....	184	42	1	227	303
1:20 to 1:40.....	143	33	1	177	295
1:40 to 2:00.....	98	18	....	116	232
2:00 to 2:20.....	87	11	....	98	229
2:20 to 2:40.....	74	9	....	83	221
2:40 to 3:00.....	73	10	....	83	249
3:00 to 3:20.....	48	4	....	52	173
3:20 to 3:40.....	56	6	1	63	231
3:40 to 4:00.....	56	8	....	64	256
4:00 to 4:20.....	40	6	....	46	199
4:20 to 4:40.....	51	3	1	55	257
4:40 to 5:00.....	45	5	....	50	250
5:00 to 5:20.....	38	2	....	40	213
5:20 to 5:40.....	25	1	....	26	147
5:40 to 6:00.....	29	3	....	32	192
6:00 to 6:20.....	23	....	....	23	146
6:20 to 6:40.....	17	....	....	17	114
6:40 to 7:00.....	28	....	....	28	196
7:00 to 7:20.....	32	5	....	37	271
7:20 to 7:40.....	31	....	....	31	238
7:40 to 8:00.....	33	2	....	35	280
8:00 to 8:20.....	39	3	....	42	350
8:20 to 8:40.....	87	....	....	87	754
8:40 to 9:00.....	100	1	....	101	909
9:00 to 9:20.....	113	1	....	114	1,064
9:20 to 9:40.....	83	1	....	84	812
9:40 to 10:00.....	41	4	....	45	450
10:00 to 10:20.....	28	1	....	29	300
10:20 to 10:40.....	13	....	....	13	139
10:40 to 11:00.....	19	1	....	20	220
11:00 to 11:20.....	14	....	....	14	159
11:20 to 11:40.....	6	....	....	6	70
11:40 to 12:00.....	17	....	....	17	204
TOTAL.....	3,173	961	43	4,177	

## APPENDIX VI

## DISTRIBUTION OF CURB SPACE IN THE CENTRAL BUSINESS DISTRICT PARKING AREA

Locations	No Stopping					No Parking Day or Night—7 Days of Width				
	Safety Zones	Hydrant Zones	Cross-Walk Zones	S.F.F.D. Zones	*Special Allow- ances	Tunnel Zones	Public Alleys Certain Streets	Taxi Stands	Drive- ways	White Zones
Streets North of Market St.....	3,228	5,342	307	53	3,598	170	1,271	690	4,231	5,668
Streets South of Market St.....	3,208	3,509	92	65	1,882	---	---	208	5,472	702
Alleys North of Market St.....	---	27	---	---	284	---	18,791	---	625	25
Alleys South of Market St.....	---	1,027	206	101	2,856	---	20,339	---	5,904	282
Market Street .....	2,375	1,404	566	---	262	---	---	46	---	464
Streets .....	8,811	10,255	965	118	5,742	170	1,271	944	9,703	6,834
Alleys .....	---	1,054	206	101	3,140	---	---	---	6,529	307
TOTAL .....	8,811	11,309	1,171	219	8,882	170	40,421	944	16,232	7,141
Percentage of Total.....	3.4%	4.3%	0.4%	0.1%	3.4%	0.1%	15.5%	0.3%	6.2%	2.8%

Locations	No Parking 7 A.M. to 6 P.M. Except Sundays and Legal Holidays				Limited Parking 7 A.M. to 6 P.M. Except Sundays and Legal Holidays				No Parking			
	Loading Zones	Certain Streets	20 Minute Limit	40 Minute Limit	60 Minute Limit	Unlimited Parking	A.M. 8:30 to 9:30	P.M. 4:30 to 6:00	TOTAL			
Streets North of Market St.....	14,675	2,794	7,609	23,574	24,004	6,067	3,511	3,788	103,281	---	---	---
Streets South of Market St.....	7,345	---	---	8,099	23,769	8,078	---	---	62,429	---	---	---
Alleys North of Market St.....	28	1,258	---	---	724	621	---	---	22,383	---	---	---
Alleys South of Market St.....	4,330	1,342	---	---	6,698	15,289	---	---	61,675	---	---	---
Market Street .....	1,525	---	---	3,385	735	67	---	---	10,829	---	---	---
Streets .....	23,545	2,794	7,609	35,058	48,508	14,212	(3,511)	(3,788)	176,539	---	---	---
Alleys .....	4,358	2,600	---	3,281	7,442	15,910	---	---	84,058	---	---	---
TOTAL .....	27,903	5,394	7,609	38,339	55,930	30,122	(3,511)	(3,788)	260,597	---	---	---
Percentage of Total.....	10.7%	2.8%	2.9%	14.7%	21.5%	11.6%	---	---	100%	---	---	---

\* Includes alley allowances, intersectional allowances and red zones which field men could not credit to any particular item.

† Overlaps limited parking column. Not included in totals from which percentages are derived.

APPENDIX VII  
MOTOR VEHICLE REGISTRATION  
*and*  
POPULATION



## APPENDIX VIII

### TYPICAL VEHICULAR FLOW, CONDITION, *and* COLLISION D I A G R A M S

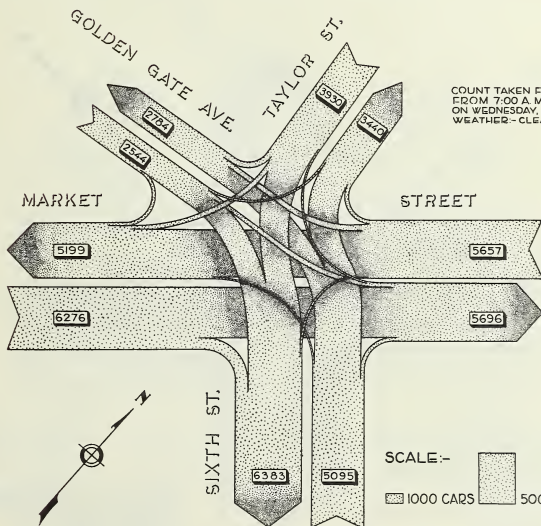
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NOTE: Such diagrams have been prepared for thirty "Worst Corners" and are filed in the office of the City Engineer.

SAN FRANCISCO TRAFFIC SURVEY  
 W.P.A. PROJECT 6108 - 5863  
**VEHICULAR FLOW DIAGRAM**  
**MARKET & TAYLOR STS.**

PREPARED FOR  
 DEPARTMENT OF PUBLIC WORKS  
 WILLIAM H. WORDEN - DIRECTOR

BY  
 MILLER McCLINTOCK  
 TRAFFIC CONSULTANT





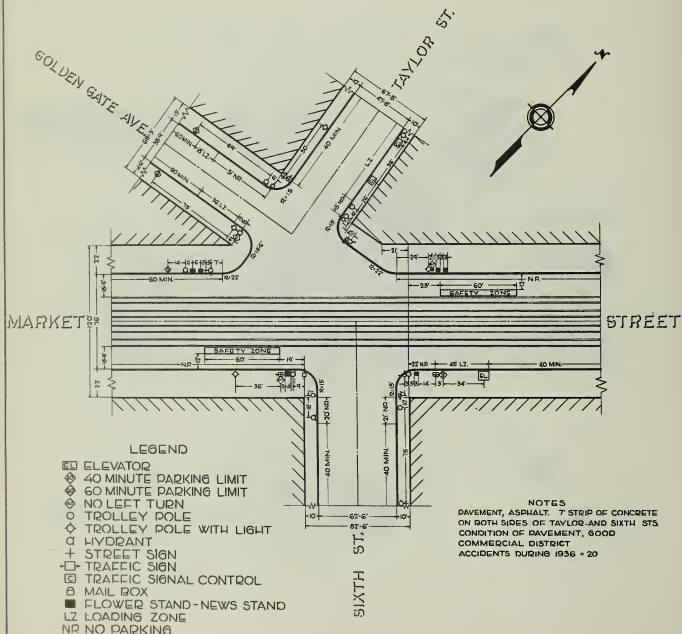
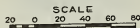
# SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108-5863

## CONDITION DIAGRAM MARKET & TAYLOR STS.

PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTOR

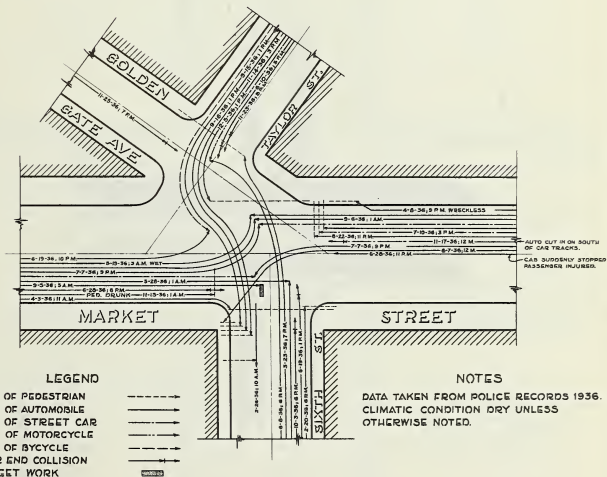
BY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT



## 45

## COLLISION DIAGRAM MARKET & TAYLOR STS.

BY  
MILLER M<sup>o</sup>. CLINTOCK  
TRAFFIC CONSULTANT

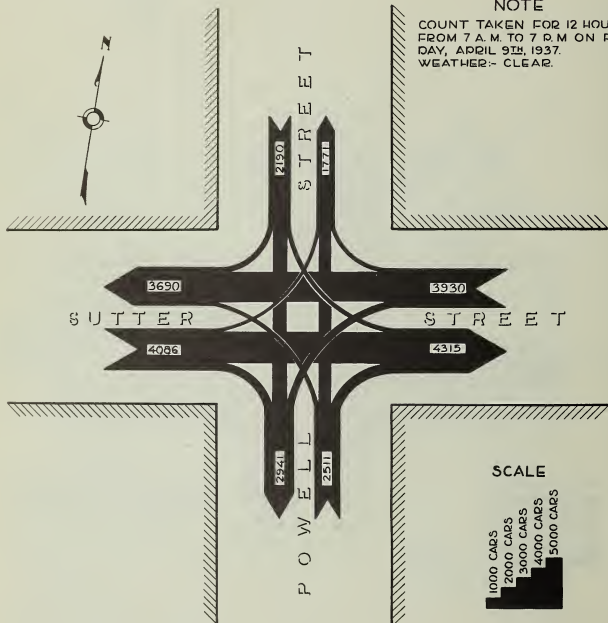


## SAN FRANCISCO TRAFFIC SURVEY

W. P. A. PROJECT 6108-5863

VEHICULAR FLOW  
POWELL & SUTTER STS.DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTORMILLER MCCLINTOCK  
TRAFFIC CONSULTANT

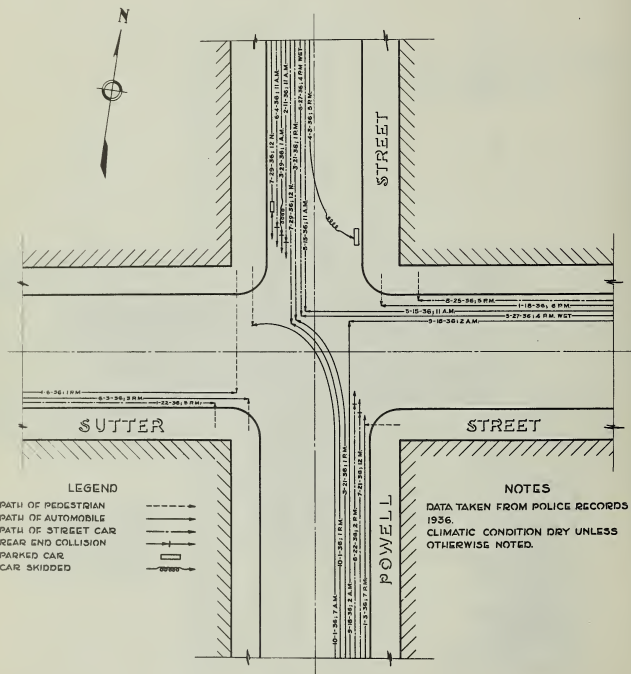
## NOTE

COUNT TAKEN FOR 12 HOURS,  
FROM 7 A. M. TO 7 P. M. ON FRI-  
DAY, APRIL 9TH, 1937.  
WEATHER:- CLEAR.



## SAN FRANCISCO TRAFFIC SURVEY

W.P.A. PROJECT 6108 - 5863

ACCIDENT DIAGRAM  
POWELL & SUTTER STS.PREPARED FOR  
DEPARTMENT OF PUBLIC WORKS  
WILLIAM H. WORDEN - DIRECTORBY  
MILLER MCCLINTOCK  
TRAFFIC CONSULTANT











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